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Barriers and facilitators influencing the uptake and acceptability of HIV pre-exposure prophylaxis amongst commercial female sex workers in Tshwane district, Gauteng province: A descriptive study

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Abstract

While there have been great advances in HIV prevention methods in recent years, such as daily pre-exposure prophylaxis (PrEP) and combination antiretrovirals used as Treatment as Prevention (TaSP), access to care, compliance, and consistent follow-up with treatment remain barriers to care in high-risk populations. The purpose of this study was to explore the barriers and facilitators for the uptake and acceptability of PrEP among female sex workers in Tshwane District, South Africa. A descriptive qualitative research design was used. Female sex workers (FSW) aged 18 years and above were purposively sampled to participate in the study. The research team approached a minimum of 24 female sex workers until data saturation was achieved. The results showed that barriers such as a shortage of PrEP, side effects of PrEP, unawareness of collection points, reliance on pills, stigmatization, and absence of clinics influenced the uptake and acceptability of PrEP. The study also reported on facilitators that enhance the uptake and acceptability of PrEP among sex workers in Tshwane District. These facilitators include knowledge and awareness, perceived HIV risk, availability of mobile clinics, the effectiveness of PrEP, easier accessibility of information, awareness programmes, fear of infection, and preventative measure. This study established the barriers and facilitators that potentially influence the uptake and acceptability of PrEP among female sex workers in the Tshwane District, Gauteng Province, South Africa.

Keywords: Barriers, Clinics, Facilitators, Female sex workers, HIV infection, Pre-exposure prophylaxis, PrEP uptake, Risky sexual behaviour.

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Institutional Review Board Statement: The Ethical Committee of the Sefako Makgatho Health Sciences University, South Africa has granted approval for this study on 6 June 2020 (Ref. No. SMUREC/H/181/2019; PG).

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1. Introduction

Pre-exposure prophylaxis (PrEP) is regarded as the pivotal intervention for supporting the reduction of Human Immunodeficiency Virus (HIV) infection by 90 percent in the year 2030, as stated by Gombe, et al. [1]. Muhumuza, et al. [2] concur with Gombe, et al. [1] and affirm that PrEP is indeed an effective HIV prevention mechanism or strategy. The WHO [3] introduced PrEP as a standard of care for HIV prevention in people at increased risk of HIV infection through unprotected sex, including men who have sex with men (MSM), female sex workers (FSW), and adolescent girls and young women (AGYW). Muhumuza, et al. [2] reported that PrEP is an antiretroviral drug which is taken daily by HIV-uninfected individuals to prevent HIV acquisition. PrEP, as an HIV prevention modality, is used in combination with other non-biomedical prevention methods such as condom use, the use of lubricants during sexual intercourse, and behavioural modification [4, 5].

Although efforts and advancement in global initiatives are being made towards preventing and treating HIV, Sub-Saharan Africa still has the highest number of people infected by HIV. The infection is driven by various factors that include economic, biological, behavioural, social, structural, and cultural factors. There is a gender and age dimension to HIV infection, particularly in sub-Saharan Africa, where women, especially younger women, are infected more than men [1, 6, 7]. Therefore, PrEP may play an important role in reducing HIV infection in Sub-Saharan Africa.

In addition, among females, female sex workers (FSW) are at an increased risk of HIV infection compared to the general female population [8], and HIV impacts them heavily. The overall HIV prevalence rate among female sex workers is 71.8%, whereas it is 25.8% in women aged 14-49 in the general population [9]. Previous scholars have established that the uptake of PrEP is enabled by several factors which include family and partner support, high HIV risk perception, perceived severity of living with HIV, and confidence in PrEP [1, 6]. Furthermore, Gombe et al. [1] suggest that the facilitators of PrEP uptake include parental and male sexual partner education, effective linkage to local healthcare facilities, peer mentors, beneficiary disclosure of PrEP usage, and decentralization of PrEP support and delivery. According to Muhumuza, et al. [2], factors such as peer influence, adequate PrEP information and sensitization, social support and care for PrEP uptake, and evidence of PrEP efficacy and safety facilitate PrEP uptake.

Furthermore, it is pertinent to note that past scholars have also reported on barriers to the uptake of PrEP. These barriers include long waiting times at clinics, social stigma, peer influence and attitudes of health workers [2], logistical challenges [1], frequent relocation of beneficiaries, drug side effects, and limited resources [6]. Despite the contributions of past scholars, most of these scholars focused on exploring the facilitators and barriers of PrEP uptake among the general population in Zimbabwe [1], adolescent girls and young women in Kenya [6], Young people in Uganda, Zimbabwe and South Africa [2], and adolescents in California [10]. Some studies have been conducted among sex workers, but they primarily focused on factors associated with HIV infection [8]. However, less focus has been placed on the facilitators and barriers to the uptake and acceptability of PrEP among commercial sex workers, indicating a dearth of literature pertaining to this subject matter. It is important to understand dynamics relating to PrEP uptake and acceptability in the female sex worker population to ensure the introduction and implementation of women-controlled interventions aimed at reducing new HIV infections, especially among this group and the general population [11-14].

Women are disproportionately affected by the HIV epidemic, especially female sex workers, who are 13 times more likely to be infected with HIV than the general female population [15-17]. While available HIV prevention modalities such as condom use, voluntary medical male circumcision (VMMC), and treatment as prevention have achieved success in reducing the number of HIV infections, more options are needed to further decrease new infections. However, these available HIV prevention modalities have not benefitted women, especially female sex workers, as they are largely male-centric and outside the control of women [18]. There is a crucial need for HIV prevention modalities such as oral PrEP that can empower women, including female sex workers, to take control and prevent new infections [18]. Additionally, it is equally important to understand factors that may influence PrEP uptake and acceptability among female sex workers to upscale implementation in the public health sector. Informing public health policy to accelerate and expand the provision of PrEP is of critical importance. The government needs empirical evidence to invest in procuring and rolling out PrEP to the population. Uptake data from the at-risk-population is needed to guide the government in scaling up and understanding the implementation of PrEP in real-life settings [19].

It is against this background that this study was designed to investigate the barriers and facilitators influencing the uptake and acceptability of HIV pre-exposure prophylaxis amongst commercial female sex workers in Tshwane District, Gauteng Province, South Africa.

This study aimed to unravel the dynamics related to PrEP uptake and acceptability in the female sex worker population, providing the premise to understand these dynamics and ensure the introduction and implementation of women-controlled interventions to reduce new HIV infections by the government and policy makers. The findings of the study contribute immensely to the body of knowledge on the barriers and enabling factors for the uptake and acceptability of PrEP among female sex workers, enriching the existing body of knowledge on this subject matter. Moreover, this study enables health workers with a comprehensive understanding of PrEP uptake among sex workers, facilitating effective service delivery. By offering insight into real-world implementation, this study contributes to obtaining a better perspective on PrEP utilization.

2. Materials and Methods

2.1. Study Design

To explore the barriers and facilitators that may influence the uptake and acceptability of PrEP among commercial female sex workers in Tshwane District, this study employed a descriptive qualitative research design [20].

2.2. Study Population and Setting

Female sex workers (FSW) were the target population for the study. Female sex workers are defined as sex workers who have received money or gifts in exchange for sex in the last three months, they are aged 18 years and above. The study especially focused on female sex workers operating in the Rooiwal area, located North of Tshwane [21].

2.3. Research Setting

This study was conducted in the Rooiwal area, which is situated outside Soshanguve in the North of Tshwane. This area serves as a hub for female sex workers to carry out their activities. The sex trade in this area primarily takes place on the streets, in bushes, and within an informal brothel setting. Mobile clinics operated by various Non-Governmental Organizations provide female sex workers with oral Pre-exposure prophylaxis as part of HIV prevention efforts.

2.4. Sampling

The study utilized a purposive sampling technique to select the participants. This approach involves selective sampling based on judgement, allowing the research team to gain insights into barriers and facilitators that may influence the uptake and acceptability of PrEP among commercial female sex workers. Female sex workers who operate in the Rooiwal area, and who met the study's inclusion criteria, were purposively selected as participants. The use of the purposive sampling approach was justified as it allowed the authors to specifically approach the individuals who possessed the characteristics necessary for the inclusion criteria of the study.

2.5. Sample Size

The rule of thumb was used to establish the sample size [22]. A minimum of 24 female sex workers were approached until data saturation was achieved. Data saturation is often referred to as the gold standard of qualitative research methodology. It is the criterion used to make a judgement to stop sampling. It represents the point at which no new data can be collected, and all the collected data seem to be giving the same answer [23]. The data was collected until data saturation was reached, which occurred during the 24th interview.

2.6. Inclusion Criteria

Consenting female sex workers aged 18 years old and above, as well as female sex workers who were willing to undergo the informed consent process, were recruited into the study.

2.7. Exclusion Criteria

Participants who were less than 18 years of age, as well as female sex workers who had no interest in PrEP uptake and were not willing to take PrEP, were excluded from the study.

2.8. Data Collection Procedure

The data was collected at Rooiwal brothels in the Tshwane District. Sex worker peer educators assisted in the recruitment of participants from various sex work areas. The research team also asked the participants who took PrEP for HIV and those who were offered PrEP but refused to take it to understand the barriers and facilitators that may have influenced their decisions regarding the uptake, acceptance, or rejection of PrEP.

The data was collected through face-to-face interviews using a semi-structured interview guide. Open-ended individual interviews with female sex workers were conducted to explore the barriers and facilitators influencing PrEP uptake and acceptability among commercial female sex workers. An interview guide, developed by the research team based on several kinds of literatures on PrEP uptake, was administered to the female sex workers. An audio recorder was used during the data collection process, and the participants were notified prior to the interviews about the usage of such equipment. The interviews were conducted in English and North Sotho, as these are the predominantly used languages in the catchment area (Tshwane North).

2.9. Data Collection Tools (Semi-Structured Interviews)

This interview guide was used during each interview to maintain the sequence of questions and ensure consistency across interviews. The interview guide contained two sections. Part A focused on the socio-demographics of the participants, while Part B focused on the participants' knowledge of PrEP, including their understanding of its benefits and concerns, their experiences with taking PrEP, perceived barriers and facilitators influencing PrEP uptake and acceptability, as well as its impact on condom use. Part B of the interview guide also contained probes to gain more insight and information provided by the female sex workers during the interviews. The interview guide contained 12 questions and lasted about 1 hour to complete.

2.10. Participant Recruitment

The sex worker peer-educator informed the female sex workers about the research study. The research team engaged in conversation with female sex workers to explain the purpose of the study, and appointments were scheduled for their participation in the study.

2.11. Ethical Considerations

Ethical clearance was obtained from the Sefako Makgatho Health Sciences University Research Ethics Committee (SMUREC/H/181/2019:PG). The nature of the study was explained to the participants prior to commencing the interviews.

A participant information leaflet and informed consent form, available in both English and the local language, were read aloud to the participants, and they signed the consent form to indicate their agreement.

2.12. Data Analysis

Data analysis began with the creation of the primary documents, where all material gathered from the interviews and transcribed were entered into ATLAS.ti [24]. The main document manager facilitated the organization of data for this study through the establishment of Primary Document Families [24]. The next phase of data analysis involved constant comparison and open coding. This phase entailed creating multiple categories by comparing the data, a process called open coding. All codes were assigned or created from the available data through opening coding, which was performed using the code manager.

The next phase was a core category and selective coding. In this phase, core codes were developed based on the information provided by the participants, which served as the central holding all other categories together. This process involved continuing the method of constant comparison. Once the core codes were discovered, selective coding was conducted. Selective coding allowed for a more precise comparison of the input data with the core codes compared to when the categories were initially created. Only factors relevant to the core codes were considered in this selective coding procedure, resulting in improved categories that aligned with the research objective.

The final phase involved comparing the revised categories to the ideas generated in this phase in order to construct a new theory. The methods of data analysis primarily involved examining, labelling, and organizing interview transcriptions into themes.

3. Results and Discussion

Table 1 shows the participants' demographic profiles.

Theme 1: Barriers to PrEP uptake and acceptability

This section presents the results derived from the analysis of data concerning the barriers that may influence the uptake and acceptability of PrEP among female commercial sex workers in Tshwane District. The findings revealed several barriers, including a shortage of PrEP, side effects, lack of awareness about collection points, concerns regarding relying solely on pills, stigmatization, and limited access to clinics.

Table 1.
Participants demographic profile.

Participant	Age	Marital status	Children	Religion	Education	Employment
1	26	Married	Yes	Christian	Tertiary	Unemployed
2	26	Single	Yes	Christian	Tertiary	Unemployed
3	25	Single	Yes	Christian	Matric	Unemployed
4	28	Divorced	Yes	Christian	Matric	Unemployed
5	32	Single	Yes	Christian	Tertiary	Unemployed
6	37	Single	Yes	Christian	Matric	Employed
7	38	Single	Yes	Christian	Primary	Unemployed
8	42	Single	None	Christian	Matric	Unemployed
9	26	Married	Yes	Christian	Grade 11	Unemployed
10	35	Divorced	Yes	Christian	Tertiary	Unemployed
11	23	Single	Yes	Christian	Tertiary	Unemployed
12	23	Single	Yes	No religion	Grade 11	Unemployed
13	31	Single	Yes	Christian	Matric	Unemployed
14	33	Single	Yes	Christian	Grade 8	Unemployed
15	36	Single	Yes	Christian	Matric	Unemployed
16	24	single	Yes	Christian	Tertiary	Employed
17	25	Single	Yes	Christian	Matric	Unemployed
18	28	Single	Yes	Christian	Matric	Unemployed
19	32	Single	Yes	Christian	Matric	Unemployed
20	36	Single	Yes	Christian	Matric	Unemployed
21	25	Married	Yes	Christian	Tertiary	Unemployed
22	33	Single	Yes	Christian	Tertiary	Unemployed
23	27	Single	Yes	Non religion	Matric	Unemployed
24	33	Single	Yes	Christian	Matric	Unemployed

3.1. Shortage of PrEP

Shortage of PrEP was noted as one of the barriers that is influencing the uptake and acceptability of PrEP. This was evident from the statement made by participants 1, 3 and 4, as shown below.

"I continued taking it every day but currently we don't get it, we don't know where to get it and what is happening. Since I came back to Pretoria, I haven't taken it, and it's been two months now." (Participant 1).

"In 2017 when I started using it because I didn't want to stop, as I didn't have access here all the time, at least I wanted to have it when I'm that side, and they told me they don't have it." (Participant 3).

"They say they no longer get them like they used to, so I'm no longer taking them." (Participant 4).

The pill is not easy to get; you only find it at the sex workers' clinic." (Participant 5).

Based on the aforementioned statements, the participants indicated that they had stopped taking PrEPs due to its shortage or unavailability in clinics. They further explained that although they intended to use PrEP, the lack of access and shortage hindered their ability to do so. Consequently, this situation adversely affected the uptake and acceptability of PrEP. There exists a reciprocal relationship between access and uptake, hence the shortage or unavailability of PrEPs negatively impacts its uptake and acceptability.

3.2. Reported Side Effects of PrEP

Side effects were also noted as another barrier that is hampering the uptake and acceptability of PrEPs among the participants. The participants reported experiencing side effects such as vomiting, menstrual changes, nausea, swelling, and loss of appetite. Furthermore, the participants also mentioned that whenever they stopped taking PrEPs, these side effects subsided. This implies that the side effects and complications associated with PrEP negatively impact the well-being of the participants and contribute to the low uptake and acceptability of PrEP. With regards to side effects as a barrier that influences uptake and acceptability of PrEPs, the views of participants 1, 3 and 5 are shown in the following excerpts.

"For contraception, I'm using Depo, so the challenge I had was that I menstruated for the whole week non-stop, so I stopped taking PrEP because I wanted to make sure if this is caused by Depo or PrEP. I stopped taking PrEP and I was fine, but the moment I started taking PrEP, I would experience menstruation twice in a month." (Participant 1).

"Okay, the first time when I started taking it, I didn't have any side effects, but the last one I had, I had complications. I was vomiting every time I took it, I would wake up feeling like vomiting." (Participant 3).

"I always have nausea, get tired sometimes, vomit after taking it, and felt like one is pregnant." (Participant 5).

3.3. PrEP Collection Point Unawareness

Not being aware of the collection point for PrEP is another barrier that was found to influence the uptake and acceptability of PrEP among sex workers. This is indicated in the sentiments shared by participants 2 and 12, as shown in the following excerpts.

"For me, I only used to take pills from those people from the mobile clinic. They were the ones who brought it to us, so I never asked where I can get it because we were relying on them. They used to come every month, so I didn't ask if I can get it somewhere else besides here." (Participant 2).

"I do not know of any project site where I can get PrEP" (Participant 12).

From the statements of the participants, it is evident that the unawareness of the collection sites is a barrier towards the uptake and acceptability of PrEP. The participants stated that they were not aware of the point where they could get the PrEPs apart from the mobile clinic. This means that despite the desire and need to use the PrEP among the participants, PrEP unawareness of PrEP collection points adversely impedes uptake.

3.4. Pills Reliance Risk

The participants reported that another barrier that impeded the uptake and acceptability of PrEP is reliance on pills. They expressed concerns about not wanting to rely on pills for the rest of their lives, and the use of PrEP was seen as fitting the notion of pills reliance. This perception of the risk associated with relying on pills contributed to the uptake and acceptability of PrEP, making it a barrier to its adoption. The following excerpts illustrate participants 6, 10, and 12's expressions regarding the risk of pills reliance.

"Yes, I did at first because of what people might say. I even have two of my friends who stopped using PREP. They said it's the same as taking anti-retroviral treatment (ARVs). Why are we drinking it each and every day? It's like you will be forever taking treatment for the rest of your life. They said they don't understand this thing, so they stopped." (Participant 6).

"For me, if I had heard about PrEP when I was still at home, I don't think I would use it because taking a tablet every day and knowing that there is nothing risky that you are doing, people would take it lightly." (Participant 10).

"I don't know, it's that feeling when you are not used to taking pills every day, unlike people who are HIV positive. They know that every time at a particular time, they have to take their pills. I was not used to this routine of taking pills every day." (Participant 12).

3.5. Stigmatization of Taking PrEP

Stigmatization, defined as an act of treating someone or something unfairly by publicly disapproving of them, is identified as another barrier that impedes the uptake and acceptability of PrEPs among the participants. This is evident from the expressions of participants 9, 10, and 14, as shown in the following excerpts:

"You cannot take them in front of people who don't know about it because it looks the same as an ARV. So, you only take them in front of people who know about it, but in public, you can't." (Participant 9).

"The other thing is, sometimes I set an alarm like for seven o'clock, and at that time, I will be having a client, so I have to tell him "wena, shift, I want to do something" – you know, taking a pill. Most people don't know, they will start thinking that you are taking ARVs or what. You end up hearing him telling another sex worker "that mama was drinking pills, I'm no longer sure how safe I am, I was afraid." (Participant 10).

"I was afraid to take it out in front of clients because they were going to ask me how I managed to get it." (Participant 14).

It is imperative to note that stigmatization is an issue that influences the uptake and acceptability of PrEPs. The participants indicated that sometimes it is shameful to take PrEP in front of their clients, as PrEPs are often confused with ARVs. The participants further explained that the same scenario is true when they take them in public. This implies that using PrEP is often regarded as something shameful by society and clients. This confusion between PrEPs and ARVs negatively influences the uptake and acceptability of PrEPs.

3.6. Absence of Clinics for PrEP Provision

The absence of clinics is also indicated as another barrier that influences the uptake and acceptability of PrEPs. The participants noted that the lack of mobile clinics has a negative impact on the accessibility of the PrEPs. When clinics are not within reach, it implies that PrEPs are also not accessible or there are difficulties in reaching the clinics where PrEPs be obtained.

"Around here, I don't know. I know of some who usually come, they are from Sechaba, but they don't come anymore. The last time they came to give us food parcels, the clinic no longer comes. The last time they came here was last year, and they only gave us condoms." (Participant 12).

This statement highlights that there is a lack of regular mobile clinics in the area, which has resulted in limited access to PrEP. The absence of clinics and infrequent visits by healthcare providers contribute to the difficulty in obtaining PrEP, thereby impeding its uptake and acceptability.

3.7. PrEP Uptake and Acceptability Facilitators

This section provides information on facilitators that can influence the uptake and acceptability of PrEP among female commercial sex workers in Tshwane District. The results of the study indicated several facilitators, which include: knowledge and awareness, perceived high HIV risk, mobile clinics availability, PrEP effectiveness, easier information accessibility, awareness programs, safety, commitment, fear of infection, and preventative measure. The following discourse elaborates on these facilitators and their impact on the uptake and acceptability of PrEP among female commercial sex workers in the Tshwane District.

3.8. Understanding and Awareness about PrEP

Regarding facilitators that can influence the uptake and acceptability of PrEP among female commercial sex workers, knowledge and awareness were identified as key facilitators. This was supported by statements made by participants 5, 6, 8, and 13, as shown below:

"Before taking these pills, they taught me a lot about them, and I also Googled and found information about them, then I started having them." (Participant 5).

"I haven't stopped because I saw it not putting me at risk, so I continued and told myself the way we were taught is helping." (Participant 6).

"No, I don't have any worries because they explained everything, that it protects me to remain HIV negative." (Participant 8).

"They do give information about how PrEP works; it's up to you what you do with the information. If you believe in it, then you will use it." (Participant 13).

As evidenced by these statements, the participants emphasized that they received a comprehensive explanation about the use of PrEP before starting to use it. This implies that the participants were provided with the information pertaining to the use of PrEP. This information established the premise for the acceptance and use of it. It is evident that when sex workers are knowledgeable and aware of PrEP and its usage, this enhances the uptake and acceptability of PrEP among them.

3.9. PrEP as a Preventative Measure against the risk of HIV Infection

PrEP, being perceived as a preventative measure, is seen as a facilitating factor that promotes the uptake and acceptability of its use. The sentiment of PrEP as a preventative measure is evident in the expressions of participants 1, 3, 6, 7, 9, 12, and 13, as shown in the following excerpts:

"As long as I'm taking PrEP, I know I am safe. Secondly, as long I adhere, I won't be HIV positive." (Participant 1).

"To protect myself, I use a condom, but in case it bursts, or something happens, I know for a fact I am safe as long as I use PrEP in this type of sex work." (Participant 3).

"I feel safe because most of the time, if I have sex, the condom might burst, and PrEP will help me to prevent myself from being infected with HIV." (Participant 6).

"For my safety, I'm preventing myself from getting HIV. I have to take them according to instructions given." (Respondent 7).

"Okay, I am a sex worker, and it's a high risk, so I use PrEP to protect myself." (Participant 9).

"It can be to protect myself against HIV in case the condom bursts. Sometimes we have partners who are unfaithful, so in case a condom bursts, you must continue taking it every day to reduce the risk of getting HIV." (Participant 12).

"It prevents from getting HIV. For instance, if I have sex with a client who is HIV positive if I adhere to PrEP, that client won't infect me." (Participant 13).

The participants in this study reported that PrEP provides them with the means to prevent HIV infection due to the uncertainty inherent in their line of work, such as condom breakage. The participants believe that PrEP reduces the risk of HIV transmission when engaging in sexual activities with different clients without getting tested first. Consequently, PrEP enables them to take preventive measures. This indicates that the facilitation of PrEP's uptake and acceptability is bolstered by the perception that sex workers need to protect themselves from HIV and other STIs. PrEP is thus perceived as a preventative measure, which ultimately influences its acceptability and uptake.

3.10. Fear of being Infected with HIV

The participants highlighted that fear of infection serves as another facilitator or enabling factor for the PrEP's acceptability and its uptake. The viewpoints of selected participants (5, 10) regarding their fear of infection are expressed in the following statements:

"Sometimes you would think, 'yes, let me leave it because it's making me sick,' but then another thought comes and says, 'this thing protects me because nobody wants to be HIV positive.'" (Participant 5).

"For me, I know that it was great news because when I started engaging in sex work, I knew I was HIV negative and I have a 3-year-old baby. I said to myself, 'The reason why I am doing this is for my baby, and I don't want to end up getting HIV and leaving my baby behind.' I was so worried, but when I heard about PrEP, I was so relieved that I would be using it every day." (Participant 10).

Based on the evidence presented above, fear of HIV infection emerges as a strong facilitator for the acceptability and uptake of PrEP among the participants. They expressed they encountered various unpredictable circumstances, such as unfaithful partners, the bursting of condoms, and fear of abandoning their children. All of these concerns stem from their fear of contracting HIV or getting infected with HIV. Consequently, some sex workers are motivated to use PrEP due to the fear of contracting HIV.

3.11. Awareness of PrEP Programs

Awareness programmes were identified as another facilitator for the uptake and acceptability of PrEP among sex workers. This facilitator was supported by the perspectives shared by participants 2, 3, 6, 8, and 10, as evident in the following statements:

"Obtained the information from the mobile clinic. They gave us information, taught us, and checked if we were okay." (Participant 2).

"I feel safe when using PrEP because I know I'm safe in case anything happens. When they gave us information, they explained that taking a single pill doesn't instantly make you safe, but it takes twenty-one days to become effective. So, I have to take it consistently. When I was taking PrEP, I felt safe and confident." (Participant 3).

"There was a clinic which came here and taught us about PrEP and started giving it to us." (Participant 6).

"I was at the clinic for a Pap smear, and I asked them to test me for HIV. They did, and the result was negative. Then, they informed me that since I'm engaged in this kind of work, I could protect myself with PrEP" (Participant 8).

"There's another mobile clinic by the name of Sediba in town, they came here, and they gave us information about PrEP" (Participant 10).

The participants expressed that they received information pertaining to the use and benefits of PrEP from mobile clinics and other clinics where they obtained their medication. The participants also posited that the information that they received from the clinics enabled them to make rational decisions about the use of PrEP. This means that the provision of information about PrEP enhances understanding, enabling individuals to informed and proactive decisions. The awareness programs conducted through both stationary and mobile clinics played a significant role in providing information that facilitated the uptake and acceptability of PrEP among the participants.

3.12. Perceived Effectiveness of PrEP

The effectiveness of PrEP has been established as another enabling factor that facilitates the acceptability and uptake of PrEPs. The participants reported that they have started taking PrEPs and have not stopped due to the notion that PrEPs are helpful in preventing them from contracting HIV. Furthermore, the participants indicated that PrEP enables them to live a healthy life considering the nature of their job. This implies that the participants found PrEP to be helpful and effective in protecting them from contracting HIV, thus providing the platform for boosting its acceptability and ultimately its uptake. PrEP effectiveness as a facilitator of PrEP acceptability and uptake is evident from the views shared by participants 4, 6, 9, 11, as shown in the following excerpts:

"Yes, I am feeling safe because when they explained it to us, they told us that this thing prevents HIV infection. So, for me, I believed it and it is helping me." (Participant 4).

"So far, so good. I can't complain. I've never had any side effects, and I do take it as a precaution. I try to be cautious at all times, so if I accidentally have an incident where a condom bursts, then I know at least I am protected by the pill I take every day. However, that doesn't mean I have to have unprotected sex. So far, so good because I've managed to maintain my status. It is still good from 2018 when I started taking PrEP" (Participant 11).

3.13. Mobile Clinics Availability

The availability of mobile clinics was also indicated as another enabling factor for the acceptability and uptake of PrEPs. Participant 2 and 6 expressed their sentiments regarding mobile clinics as follows:

"I found out the information from the mobile clinic. Those people who come here gave us information, taught us, and checked if we were okay." (Participant 2).

"I never heard about it. Only mobile clinics gave me information about PrEP." (Participant 6).

The participants noted that the presence of mobile clinics in their areas of residence enables easier access to information about PrEPs and the PrEPs itself. The mobile clinics provided awareness about PrEPs by providing information pertaining to its use and benefits. In addition, these mobile clinics facilitate accessibility to PrEPs by the participants. Therefore, the combination of access to information and PrEP accessibility forms the basis for enhanced acceptability and uptake. This implies that the availability of mobile clinics significantly contributes to the acceptability and uptake of PrEPs.

3.14. Contributions of the Study to the Body of Knowledge

The study contributes to literature describing the barriers influencing the uptake and acceptability of PrEP, as well as the facilitators, among sex workers. The findings of the study have the potential to pave the way for future inquiries that could further enrich and amplify PrEP uptake and acceptability in low and middle income countries.

3.15. Implications for Practice and Recommendations

It is hoped that this study would be of value to policymakers when designing and implementing policies on PrEP uptake or distribution. The recommendation for policy makers is to consider the development of specific guidelines that are relevant for FSW since they are a vulnerable and high-risk population. Government should develop forums and workshops to facilitate better communication regarding the knowledge of PrEP. This will enhance awareness and uptake while reducing stigmatization associated with PrEP use.

3.16. Limitations for the Study and Directions for Future Research

This study had some limitations in terms of scope. The scope of the study was restricted to Tshwane District, and therefore the findings cannot be generalized to other areas in South Africa or beyond, such as the rest of Africa or other developing countries/emerging economies. Additionally, the study was conducted using a qualitative approach, which implies a limited sample size. As a result, a wider population could not be reached, limiting the ability to have a broader understanding of the experiences of the sex workers.

3.17. Future Research

The findings from this study have the potential to be of value to other researchers in understanding PrEP uptake and acceptability. It provides insights into the barriers and facilitators of PrEP among sex workers in Tshwane District. There is a possibility of conducting a replication of this study in other districts, municipalities and provinces of South Africa. Such a replication study could help to assess the similarities and differences in PrEP uptake and acceptability among sex workers across different regions. Furthermore, it is hoped that a similar study could be conducted using a quantitative methodology to gain a broader perspective on the phenomenon within a larger population.

4. Conclusion

This study found that there are various barriers influencing the uptake and acceptability of PrEP. These barriers include the shortage of PrEP, side effects, unawareness of collection points, reliance on pills as a risk, stigmatization, and absence of clinics. These barriers were noted to have an adverse effect on the uptake and acceptability of PrEP. When faced with these diverse impediments, some sex workers tend to reject the use of PrEP due to concerns such as side effects, while others discontinue its use altogether. This implies that PrEP uptake and acceptability of PrEP are negatively influenced by these barriers.

The study also reported on various facilitators that enhance the uptake and acceptability of PrEP among sex workers in Tshwane District. These facilitators include knowledge and awareness, perceived high HIV risk, availability of mobile clinics, the effectiveness of PrEP, easier accessibility to information, awareness programs, fear of infection, and preventative measures. This means that there are several factors that are enabling the uptake and acceptability of PrEP, and these factors contribute to its usage to a greater extent. For instance, when sex workers experience positive results from PrEP and perceive it as effective, it leads to a favorable perception and acceptance of its use.

This study established the barriers and facilitators influencing the uptake and acceptability of PrEP among sex workers in Tshwane district in Gauteng Province, South Africa.

References

- [1] M. M. Gombe *et al.*, "Key barriers and enablers associated with uptake and continuation of oral pre-exposure prophylaxis in the public sector in Zimbabwe: Qualitative perspectives of general population clients at high risk for HIV," *PLoS One*, vol. 15, no. 1, pp. 1-5, 2020. <https://doi.org/10.1371/journal.pone.0227632>
- [2] R. Muhumuza *et al.*, "Exploring perceived barriers and facilitators of PrEP uptake among young people in Uganda, Zimbabwe, and South Africa," *Archives of Sexual Behavior*, vol. 50, no. 4, pp. 1729-1742, 2021. <https://doi.org/10.1007/s10508-020-01880-y>
- [3] WHO, "WHO expands recommendation on oral pre-exposure prophylaxis of HIV infection," Retrieved: www.who.int. 2015.
- [4] K. Mayer, N. Chandhok, and B. Thomas, "Antiretroviral pre-exposure prophylaxis: A new opportunity to slow HIV spread in India," *Indian Journal of Medical Research*, vol. 143, no. 2, pp. 1-3, 2016. <https://doi.org/10.4103/0971-5916.180194>
- [5] K. H. Mayer, A. Agwu, and D. Malebranche, "Barriers to the wider use of pre-exposure prophylaxis in the United States: A narrative review," *Advances in Therapy*, vol. 37, no. 5, pp. 1778-1811, 2020. <https://doi.org/10.1007/s12325-020-01295-0>

- [6] M. Jackson-Gibson *et al.*, "Facilitators and barriers to HIV pre-exposure prophylaxis uptake through a community-based intervention strategy among adolescent girls and young women in some sub-county, Kisumu, Kenya," *BMC Public Health*, vol. 21, no. 1, pp. 1-13, 2021. <https://doi.org/10.1186/s12889-021-11335-1>
- [7] UNAIDS, "Pre-exposure prophylaxis in Southern Africa," Retrieved: www.unaids.org, 2016.
- [8] J. Coetzee, R. Jewkes, and G. E. Gray, "Cross-sectional study of female sex workers in Soweto, South Africa: Factors associated with HIV infection," *PLoS One*, vol. 12, no. 10, pp. 1-3, 2017. <https://doi.org/10.1371/journal.pone.0184775>
- [9] University of California, San Francisco, and Anova Health Institute & Wits Reproductive Health and HIV Institute, "South African health monitoring survey (SAHMS): An integrated biological and behavioural survey among female sex workers, South Africa 2013–2014," Final Report, 2015.
- [10] M. Rotheram-Borus, E. Davis, and R. Rezai, "Stopping the rise of HIV among adolescents globally," *Current Opinion in Pediatrics*, vol. 30, no. 1, pp. 131-136, 2018. <https://doi.org/10.1097/mop.0000000000000580>
- [11] C. Liu *et al.*, "Factors influencing uptake of pre-exposure prophylaxis: Some qualitative insights from an intervention study of men who have sex with men in China," *Sexual Health*, vol. 15, no. 1, pp. 39-45, 2017. <https://doi.org/10.1071/sh17075>
- [12] J. Blumenthal *et al.*, "Perceived versus calculated HIV risk: Implications for pre-exposure prophylaxis uptake in a randomized trial of men who have sex with men," *Journal of Acquired Immune Deficiency Syndromes*, vol. 80, no. 2, pp. e23-e29, 2019. <https://doi.org/10.1097/qai.0000000000001888>
- [13] K. Macapagal, A. Kraus, A. K. Korpak, K. Jozsa, and D. A. Moskowitz, "PrEP awareness, uptake, barriers, and correlates among adolescents assigned male at birth who have sex with males in the US," *Archives of Sexual Behavior*, vol. 49, no. 1, pp. 113-124, 2020. <https://doi.org/10.1007/s10508-019-1429-2>
- [14] R. Thomas *et al.*, "Improving risk perception and uptake of pre-exposure prophylaxis through interactive feedback-based counselling with and without community engagement in young women in Manicaland, East Zimbabwe: Study protocol for a pilot randomized trial," *Trials*, vol. 20, no. 1, pp. 1-9, 2019. <https://doi.org/10.1186/s13063-019-3791-8>
- [15] S. Niderost, D. Gredig, B. Hassler, F. Uggowitzer, and P. Weber, "The intention to use HIV-pre-exposure prophylaxis among men who have sex with men in Switzerland: Testing an extended explanatory model drawing on the unified theory of acceptance and use of technology," *Journal of Public Health*, vol. 26, no. 3, pp. 247-259, 2018. <https://doi.org/10.1007/s10389-017-0869-1>
- [16] T. Mudzviti *et al.*, "Perspectives on oral pre-exposure prophylaxis use amongst female sex workers in Harare, Zimbabwe," *Southern African Journal of HIV Medicine*, vol. 21, no. 1, pp. 1-6, 2020. <https://doi.org/10.4102/sajhivmed.v21i1.1039>
- [17] T. R. Muwonge *et al.*, "Knowledge and barriers of PrEP delivery among diverse groups of potential PrEP users in Central Uganda," *PLoS One*, vol. 15, no. 10, p. e0241399, 2020. <https://doi.org/10.1371/journal.pone.0241399>
- [18] Q. A. Karim and C. Baxter, "The dual burden of gender-based violence and HIV in adolescent girls and young women in South Africa: Guest editorial," *South African Medical Journal*, vol. 106, no. 12, pp. 1151-1153, 2016. <https://doi.org/10.7196/samj.2016.v106.i12.12126>
- [19] R. Eakle, A. Bourne, J. Mbogua, N. Mutanha, and H. Rees, "Exploring acceptability of oral PrEP prior to implementation among female sex workers in South Africa," *Journal of the International AIDS Society*, vol. 21, no. 2, p. e25081, 2018. <https://doi.org/10.1002/jia2.25081>
- [20] L. Doyle, C. McCabe, B. Keogh, A. Brady, and M. McCann, "An overview of the qualitative descriptive design within nursing research," *Journal of Research in Nursing*, vol. 25, no. 5, pp. 443-455, 2020. <https://doi.org/10.1177/1744987119880234>
- [21] W. Gomez, I. W. Holloway, D. W. Pantalone, and C. Grov, "PrEP uptake as a social movement among gay and bisexual men," *Culture, Health & Sexuality*, vol. 24, no. 2, pp. 241-253, 2022. <https://doi.org/10.1080/13691058.2020.1831075>
- [22] I. Young, P. Flowers, and L. McDaid, "Open barriers to uptake and use of pre-exposure prophylaxis (prep) among communities most affected by HIV in the UK: Findings from a qualitative study in Scotland," *British Medical Journal*, vol. 4, pp. 1-8, 2014.
- [23] M. K. Saunders, P. H. Lewis, and A. D. Thornhill, "Research business for business students," vol. 6, 4th ed. England: Pearson Education Limited, 2007, pp. 1-268.
- [24] S. Friesse, *Qualitative data analysis with ATLAS ti*, 3rd ed. London, UK: Sage, 2019.