THE EXPERIENCES OF HEALTH CARE WORKERS ON PRESCRIBING PrEP TO ADOLESCENT GIRLS AND YOUNG WOMEN AT PUBLIC HEALTH CENTERS IN WINDHOEK, KHOMAS REGION, NAMIBIA.

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Abstract

Oral pre-exposure prophylaxis (PrEP) is the usage of antiretroviral medications by HIV-uninfected persons to prevent HIV. It has the potential to significantly reduce HIV acquisition among adolescent girls and young women (AGYW) aged 15–24 who have not yet been exposed to HIV. The purpose of this study was to explore health care workers' experiences on prescribing Pre-exposure prophylaxis to adolescent girls and young woman at high risk of HIV in Windhoek. The objectives of the study were to explore health care workers' experiences to prescribing PrEP to adolescent girls and young woman at high risk of HIV infections and to explore health care workers views on PrEP delivery services among AGYW at public health centers. A qualitative, phenomenology design was conducted at public health centers in Windhoek, Khomas region to explore health care workers' experiences to prescribing PrEP to adolescent girls and young woman at high risk of HIV infections and explore their views on PrEP service delivery among AGYW. Population of the study were nurses that are PrEP prescribers and health centers contain of 58 nurses. Convenience sampling method was used to recruit nurses into the study. A semi-structured interview guide was used as a data collection instrument. Data were analyzed using thematic content analysis. Majority of HCWs indicated that they promoted PrEP uptake among AGYW and were willing and comfortable with prescribing Prep to AGYW. Few HCWs were not comfortable prescribing PrEP to AGYW citing that it promotes the reduction in condom use. The study highlighted a need to sensitize PrEP and sexual reproductive health for AGYW in all departments within the health centers. PrEP introduction among AGYW requires more than solely training HCWs on the clinical aspects of prescribing PrEP. It involves addressing HCWs' biases and preference regarding sexual health services to AGYW and preparing the health facilities organization for the introduction of PrEP among AGYW. Furthermore, health care workers need to conduct community health education to AGYW for them to develop a culture of voluntarily visiting the health facility and request PrEP when the need arise. Most importantly there is a need for health care workers to educate the community on PrEP to reduce stigma based on PrEP initiation in the society.

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Dedication

To my mother and my grandmother, the hard works you have instilled in me I will forever be grateful for all the lessons.

Declaration

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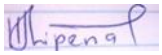

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Abbreviations and Acronyms

AGYW	Adolescent girls and young woman
AIDS	Acquired Immunodeficiency Syndrome
ART	Anti-Retroviral Therapy
HCW	Health care workers
HIV	Human Immunodeficiency Virus
NIMART	Nurse Initiated Management of Anti- Retroviral Therapy
MoHSS	Ministry of Health and Social Services
PrEP	Pre-exposure prophylaxis
STI	Sexually Transmitted Infection
WHO	World Health Organization
ITECH	International Training and Education Center for Health
PHC	Primary Health Care

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CHAPTER 1: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction of the study

According to the 2017 Namibia population-based HIV impact assessment, adolescent girls and young women (AGYW) aged 15–24 was the population that account for the highest new HIV infection rate. That population contributed with 0.99% of new HIV infections (1). Pre-exposure prophylaxis (PrEP) program is one of the country priority strategies aiming at reducing HIV incidence among AGYW. Oral PrEP is the usage of antiretroviral medications by HIV-uninfected persons to prevent HIV. It has the potential to significantly reduce HIV acquisition among AGYW aged 15–24 who have not yet been exposed to HIV (2).

Pre-exposure prophylaxis is one of the interventions Namibia needs, but the implementation towards the AGYW has been filled with controversy in the society. PrEP has been recommended by World Health Organization (WHO) in a two drug combinations for the use of tenofovir/emtricitabine or tenofovir/lamivudine combination (2), but little is known about health care workers comfort and readiness with prescribing it to adolescent and young woman. AGYW are typically targeted as potential users of PrEP based on the popularity of behaviors that put them at increased risk for acquiring HIV (3). When used as directed by health care workers PrEP has been shown to be highly effective in reducing the risk of contracting HIV up to 99%. PrEP effectiveness among AGYW will rely on whether they can successfully access, use and adhere to it and this requires extensive commitment and support from health care workers where their perception, attitude, willingness and experience will play a major role (3).

1.2 Background of the study

In 2015, WHO recommended that people at substantial risk of HIV should be offered oral PrEP as an additional prevention choice within a comprehensive HIV prevention package (3). The statistics are clear, they state that PrEP works if taken correctly and consistently. AGYW are typically targeted as potential users of PrEP based on the popularity of behaviors that put them at increased risk for acquiring HIV (3). As countries initiate to roll out PrEP, each country developed its own communication road map because each country context is unique and countries will need to pursue additional information about the health care workers understanding, skills and experience regarding PrEP (4).

PrEP delivery is more than distribution of a pill. It is centered on a comprehensive strategy that include necessary communication interventions that target the AGYW by providing them with current and correct information regarding PrEP benefits and risks (4). AGYW face multiple barriers in accessing PrEP due to their age, gender, and lifestyle (5). Even when there are enough PrEP services available and accessible, the health care workers may not be youth-friendly or sensitized to the needs of AGYW.

With fear of discrimination from providers who may perceive the request for PrEP as an indication of sexual activity or promiscuity, it can discourage AGYW from accessing PrEP. PrEP have the potential to decrease incidence rate among that age group. Nonetheless, health care workers experience and their willingness to provide PrEP to AGYW at high risk of HIV can significantly influence the provision of PrEP services to AGYW. This means that for PrEP to have an impact on AGYW and decreasing HIV incidence among them, health care workers need to be willing to prescribe PrEP to them.

A study done in the United states of America reported that health care workers are unfamiliar with clinical guidelines for PrEP use, especially in determining which adolescent are candidate for prep use and appropriate dosing regimen with follow-up procedures (6). Overall HCWs had low intent on prescribing PrEP, mentioning concerns about parental consent, medication adherence and suitability of primary care providers in prescribing and managing adolescent on PrEP (6). A study done in Africa reported that most HCWs preferred adolescent girls wait until the age 18 to access PrEP services (7). Their primary concerns was whether adolescent girls and young woman would be able to take PrEP daily especially if they do not inform their parents or partners that they are using it (7). Furthermore some health professional reported that PrEP was causing more harm than good citing reduction in condom use, medication non adherence, drug resistance and only a higher percentage of physicians had a plan to offer PrEP more than any other health care professional (8). Currently there is no research done on experience of health care workers on prescribing PrEP to adolescent and young woman in Namibia.

1.3 Problem statement

One of the main focus for national strategic framework response for HIV/AIDS is to make HIV preventable methods accessible to AGYW who are not infected to remain negative as well as to contribute to reduction in incidence rate (9). International Training and Education Center for Health (ITECH) has been supporting the implementation of PrEP among AGYW in Namibia. In 2018 ITECH reported that about 4,759 AGYW were at substantial risk of contracting HIV infections in Windhoek, Khomas region, but, only 1,290 were enrolled on PrEP. Furthermore, 72% of AGYW enrolled on PrEP do not return to the health facilities after 1 month follow-up, only 28% of those enrolled return

for follow-up. Additionally, ITECH have highlighted that AGYW have generally indicated reasonable enough awareness of PrEP but low rates of actual prescription of PrEP from health care workers (9). Moreover, studies have shown that AGYW are often reluctant to seek sexual and reproductive health services due to experiences of poor quality of care from HCWs (7). This is indicating a barrier to PrEP prescription to AGYW because Health care workers' perception and experiences occur within the context of broader structural and facility factors that may influence their decision-making about providing PrEP to AGYW. On the other hand, every year AGYW are being infected with HIV and they account for high incidence rate in Namibia highlighting the need for HIV prevention method and this continues to present a substantial challenge to the epidemic control of HIV (1). This means that new HIV infections will continue to rise among AGYW despite PrEP being available and for free at health facilities. Understanding the use of pre-exposure prophylaxis (PrEP) by HCWs for HIV prevention among AGYW is crucial to improve the uptake of PrEP by AGYW.

1.4 Purpose of the study

The purpose of this study was to explore health care workers' experience on prescribing Pre-exposure prophylaxis to adolescent girls and young woman at high risk of HIV in Windhoek.

1.5 The objective of the study

1. To explore health care workers' experience to prescribing PrEP to adolescent girls and young woman at high risk of HIV infections.

2. To explore health care workers views on PrEP delivery services among AGYW at public health centers.

1.6 Significance of the study

The study findings are aimed at informing the health facilities, ministry of health and social services (MOHSS) and its relevant stakeholders about potential factors that are hindering PrEP use by AGYW. In addition, the experience of HCWs who are already delivering PrEP to AGYW will share information regarding the experiences of health care workers on prescribing PrEP to AGYW. The study findings will be available to assist policymakers and help improve program implementation as a measure to reduce HIV incidence among AGYW.

1.7 Limitation

This study will only be limited to public health centers in Windhoek, so the research findings might not be generalized to broader population. Additionally, participants might give response that will be viewed favorable by the interviewer.

1.8 Delimitation

The study will only be limited to health care workers dealing with PrEP and working at public health centers within Windhoek during data collection period.

1.9 Operational definitions

Experience: refers to conscious events in general, more specifically to perceptions or to the practical knowledge and familiarity that is produced by these processes (3).

Health care workers: refers to a healthcare professional (nurses) that provide health care treatments and advice based on formal training and experience (9).

Prescribing: refers to a formal communication from a health care professional to a pharmacist, authorizing them to dispense a specific prescription drug for a specific client (9).

PrEP: is the use of antiretroviral drugs before HIV exposure by people who are not infected with HIV in order to block or prevent the acquisition of HIV (3).

Adolescent girls and young woman: refers to girls and woman from the age of 15 years old till 24 years old (9).

Public health centers: refers to a publicly owned facility for the provision of public health services (3).

1.10 Chapter layout

The primary goal of this study was to explore health care workers' experience to prescribing PrEP to adolescent girls and young woman at high risk of HIV infections at public health center in Windhoek. This thesis is partitioned into five chapters.

Chapter 1, presented an introduction and background of the study an introduction in healthcare experience regarding prescribing PrEP to AGYW, problem statements, purpose, objectives, significance of the study, limitation and delimitation.

Chapter 2, literature review, examining what other researchers have done on the similar topic

Chapter 3, covers the research design and methodology of this study, furthermore the chapter also gives an overview of the sampling method, data collection instrument and how data was analyzed.

Chapter 4, it covers the presentation of research findings.

Chapter 5, gives the conclusion and recommendation of the study.

1.11 Chapter summary

The HIV incidence remains high among AGYW and several strategies are therefore required to reduce the transmission of HIV virus among AGYW. Pre-Exposure prophylaxis is effective in reducing HIV incidence among AGYW but the implementation towards AGYW has been filled with controversy in the society. PrEP has been recommended by World Health Organization (WHO) in a two drug combinations for the use of tenofovir/emtricitabine or tenofovir/lamivudine combination(2), but little is known about health care workers comfort and readiness with prescribing it to adolescent and young woman. Chapter one gave a brief introduction to the study topic, the background of the study, a discussion on the significance of the study, objective of the study, limitation and delimitation of the study. The next chapter contains analysis of the relevant literature on the topic.

2. LITERATURE REVIEW

2.1 Introduction

Literature review is an organized written presentation of what has been published on a topic by scholars. The literature review gives the leader more information and data of what was already published before that specific study on the topic of interest (10). It also helps the researcher when it comes to discussing the findings. By conducting a literature review the researcher identifies the research problem and refines the research question. This literature review focuses on overview of PrEP introduction, health care workers experience regarding prescribing PrEP to adolescent girls and young woman.

Oral PrEP is an anti-retroviral drug in the form of a tablet taken by HIV negative people daily to significantly reduce their chances of HIV infection (11). PrEP stands for pre-exposure prophylaxis. PrEP is a small pill that helps HIV negative people stay negative. PrEP can be taken at any time of the day with or without food. A substantial body of literature reveals that adolescent girls and young women (AGYW) aged 15 – 24 years are more vulnerable to Human Immune Virus (HIV) infection than their male counterparts (7). The aim of this study is to understand health care workers experience when it comes to prescribing prep to AGYW.

Table 2.1 Key findings for Namibia population-based HIV impact assessment

HIV Indicator	Female	95% CI	Male	95% CI	Total	95% CI
Annual incidence (%)						
15-24 years	0.99	0.30-1.68	0.03	0.00-0.14	0.51	0.16-0.86
15-49 years	0.67	0.27-1.05	0.15	0.00-0.32	0.40	0.19-0.61
15-64 years	0.59	0.25-0.94	0.13	0.00-0.28	0.36	0.18-0.55
Prevalence (%)						
0-14 years	1.1	0.7-1.5	1.0	0.6-1.4	1.0	0.8-1.3
15-24 years	5.4	4.6-6.2	2.5	1.9-3.1	4.0	3.4-4.5
15-49 years	14.8	13.7-16.0	8.0	7.2-8.8	11.5	10.7-12.4
15-64 years	15.7	14.5-16.8	9.3	8.5-10.1	12.6	11.7-13.5
Viral load suppression (%)						
15-64 years	81.7	79.1-84.3	69.6	65.2-74.0	77.4	74.8-80.0

Source: NAMPHIA (3)

The table above shows that annual incidence is high among the 15 to 24 years age group of females, with new infection rising in this age group an urgent intervention is needed to avert new HIV incidence. The expected increase in the number of PLHIV has been attributed mainly to the outcome of reduced AIDS mortality due to improved and high coverage of ART (12). A number of factors are likely contributing to the high prevalence or incidence of HIV in Namibia. The Behavioral and Contextual Factors Driving the Epidemic study has identified multiple and concurrent partnerships and intergenerational sex as the main drivers of the HIV epidemic in Namibia (12). Other contributing factors include alcohol abuse and low levels of HIV risk-perception and high levels of population mobility.

2.3 Overview of Pre-Exposure Prophylaxis

Daily oral pre-exposure prophylaxis (PrEP) is the use of antiretroviral drugs by HIV-negative people to prevent HIV infection (4). PrEP is highly effective for prevention of HIV when taken as prescribed. PrEP is known to reduce the risk of getting HIV from sex

by about 99%. Prep reduces the risk of getting HIV from injecting drug use by at least 74%.

Prep is known to be not effective when not taken as prescribed. Since PrEP it's only known to protect from the HIV virus, condom use is still an important critical method for protection against sexually transmitted infections. If taken daily with high adherence, the presence of medication in one blood and tissues can stop the virus from establishing itself in the body. It takes about 7 days for anal sex and 21 days for receptive vaginal sex for PrEP to achieve protection levels. PrEP indications include any sexually active HIV negative person at substantial risk of acquiring HIV. Those at risk include but not limited to the following:

- HIV negative people in sero-discordant relationships with a partner who is not confirmed as virologically suppressed.
- Pregnant or breastfeeding HIV negative woman in sero-discordant relationships.
- Those with partners of unknown HIV status.
- Those with recent or recurrent sexually transmitted infections.
- Those with multiple or concurrent sexual partners.
- Those with history of inconsistent or no condom use.
- Recurrent PEP users
- Those with history of sex under the influence of alcohol or recreation drugs
- Injection drugs users.
- Those in abusive relationships.
- Those who strongly feel at substantial risk of HIV infections.

WHO has approved two medications for use as PrEP, consisting of a combination of drugs in a single oral tablet to be taken daily:

1. Tenofovir /emtricitabine
2. Tenofovir /lamivudine

Figure2.2 Pre-Exposure Prophylaxis

Source: istockphoto.com

Twelve trials of the effectiveness of oral PrEP have been conducted among serodiscordant couples, heterosexual men, women, men who have sex with men, people who inject drugs and transgender women (177–188), where adherence has been high, significant levels of efficacy have been achieved, showing the value of this intervention as part of combination prevention approaches (2).

2.3.1 PrEP supporting evidence

WHO released new guidelines in 2015 recommending PrEP for all populations at substantial risk of HIV infection (18). This new recommendation replaces the previous WHO recommendations on PrEP and enables the offer of PrEP to be considered for

people at substantial risk of acquiring HIV rather than limiting the recommendation to specific populations. A systematic review and meta-analysis of PrEP trials containing TDF demonstrated that PrEP is effective in reducing the risk of acquiring HIV infection (2). The level of protection did not differ by age, gender, regimen (TDF versus FTC + TDF) and mode of acquiring HIV (rectal, penile or vaginal) furthermore the level of protection was strongly correlated with adherence (2).

When PrEP is prescribed, clinicians should provide access, directly or by facilitated referral, to proven effective risk-reduction services (2). This is done because high medication adherence is critical to PrEP effectiveness. When all studies were analyzed together, the results produced significant heterogeneity (2)The results from meta-regression conducted to evaluate whether certain variables weakened the effect of PrEP on reducing the risk of acquiring HIV infection demonstrated that adherence is a significant representative (4). In addition medication adherence was not uniformly achieved by trial participants, patients should be encouraged and enabled to use PrEP in combination with other effective prevention methods like condoms (6).

Ten randomized controlled trials comparing PrEP with placebo presented data on any adverse event reported that the risk of experiencing at least one side effects during follow-up was common in participants in all trials (2). Across studies done, the rates of any side effects did not differ for PrEP versus placebo furthermore, correspondingly there were no differences across subgroups, including mode of acquisition, adherence, sex, drug regimen, drug dosing or age (2). It is stated that the risk of drug resistance to FTC was overall low during the PrEP trials, and this occurred mainly among people who were acutely infected with HIV when initiating PrEP moreover, The proportion of people with

drug-resistant HIV infection did not differ in the PrEP and placebo groups among everyone at risk, although the number of events was low (2).

Researchers also reported that No evidence have indicated that PrEP led to risk return in sexual practices, such as decreased condom use or more sexual partners (4). A review of cost–effectiveness studies for PrEP use reported that, in widespread epidemics where there is a high incidence rate, offering priority for PrEP use to people at substantial risk of acquiring HIV infection increases impact and control the epidemic (12). Some of the studies found PrEP use to be cost-effective and manageable comparing to ART expansion (2).

Among intense epidemics PrEP could significantly impact the epidemic therefore contributing to low cost of ART roll out. Studies have found PrEP to be cost-effective depending on the cost of the drug and delivery systems and when PrEP uptake is higher among people at substantial risk it contribute to a reduction of HIV infection and nation will benefit in paying less on ART medication (2). Preventing HIV infection among PrEP users is known to contribute to reasonable health outcomes and achieving sustainable health outcomes for PrEP users and their sexual partners.

It is also noted that Access to PrEP also provides opportunities for accessing sexual health services, and people at substantial HIV risk are often currently not having access to medical health services or live far from the facilities and only have access to few or no effective HIV prevention options (2). Extending PrEP recommendations beyond narrowly defined groups allows for more reasonable and impartial access and will reduce future treatment costs overall by preventing HIV infection in populations with a high incidence (3).

2.3.2 Advantage of taking PrEP

A perfect advantage of oral PrEP is its potential to address the issue of lack and absence of action and control among women when it comes to HIV prevention methods (19)(11). Mostly women have had to depend on their male partners' willingness to use condoms as their primary prevention strategy all the time, oral PrEP offers women the likelihood and option of autonomy over their own bodies by allowing them to take oral PrEP to protect themselves against the HIV infections without their partner's knowledge if they so wish (7).The use of oral PrEP can aid and support in achieving HIV epidemic control among AGYW, where high HIV incidence rates continue to be worryingly high (5).

Understanding how to successfully and efficiently introduce and deliver PrEP to AGYW to ensure they can access, use, and adhere to it is critically important to reducing incidence among AGYW (7). HCWs are crucial for the success of PrEP implementation because it's them that are needed to provide and promote this services to AGYW (20).

Clinicians reported consistent ("always") condom use is associated and related with an 80% reduction in HIV acquisition among individuals (21). However, inconsistent condom use is less effective and studies have reported low rates of recent consistent condom use among sexually active AGYW (8). Especially low rates have been reported when condom use was measured over several months rather than during most recent sex or the past 30 days (22). Therefore, unless the patient reports confidence and self-assurance that consistent condom use can be achieved, additional HIV prevention methods, including the consideration of PrEP should be provided while continuing to support condom (11). Thus, PrEP is an acceptable intervention for adolescents and young adults and could help decrease the rates of HIV in this vulnerable age group (7).

2.3.3 PrEP side effects

Firstly, it is noted that majority of people taking PrEP do not experience side effects at all. Even in clinical trials only a small percentage of participants reported adverse effects from the medication (12). It is well stated that everybody will and might react differently to the medication because some people are more sensitive to medication and may experience side effects than others. People who start using PrEP may report side effects in the first few weeks of use and the side effects are normally tolerable (12). These side effects may include:

- Nausea
- Vomiting
- Dizziness
- Loss of appetites
- Rash
- tiredness
- Weight fluctuation
- abdominal cramping
- Headache and are typically mild and self-limited and do not require discontinuing PrEP.
- Fatigue
- diarrhea

It is therefore important for health care workers to address this side effects so that people that start using PrEP can be more adherent. These side effects usually go away overtime

and if they are severe people are advised to report them to their health care workers. Sadly many people who are considering taking PrEP holds back because of this side effects even though they are at high risk of acquiring HIV (7). Ultimately the benefit of PrEP far outweigh any potential side effects of PrEP because for the majority this side effects are manageable and can be reversed unlike the HIV virus (2).

2.3.5 Health care workers role in PrEP provision

It is already known that oral pre-exposure prophylaxis (PrEP) has the potential to reduce HIV acquisition among adolescent girls and young women (AGYW).

However, health care workers' (HCWs) experience, perceptions and interactions with potential clients can substantially influence effective provision of PrEP service to AGYW (22). In 2015, the World Health Organization (WHO) released guidelines noting that PrEP should be offered to individuals at substantial risk for HIV as part of combination prevention approaches (3). In contrast, HIV clinicians may be most skillful at prescribing antiretroviral medications, and they are most likely to have contact with sexual partners of their HIV-infected patients and AGYW who utilize antiretroviral post-exposure prophylaxis after high-risk exposures to HIV (2). Therefore, HIV clinicians are known to be positively positioned to act as early adopters among PrEP prescribers, and may influence the less experienced non expert peers (6). Studies to understand HCWs experience and perceptions about PrEP are needed because PrEP efficacy among AGYW will be dependent on whether they can effectively access, use, and adhere to it.

Access, use and adherence to PrEP by AGYW requires substantial commitment and support from health care workers (HCWs), whose perspectives and experiences occur

within the context of broader structural and facility factors that may influence their decision-making about to whom and how to provide PrEP(4). PrEP requires a prescription, specialized counseling, regular HIV testing, and close clinical monitoring for side effects and monitoring seroconversion through frequent follow-up (11)(12). HCWs' commitment, close clinical monitoring, and support become even more essential for AGYW as research shows that women and younger participants in PrEP trials are less likely to adhere to the medication because of their busy lives and they are hardly at their location (8). Adherence is known as one of the critical areas for PrEP to be effective. Moreover, adolescents and young woman are often reluctant to seek sexual and reproductive health services due to experiences of poor quality of care and stigma and discrimination from HCWs (5)(23). Thus, it is important to gauge HCWs' perceptions and concerns about providing PrEP to AGYW. In addition, the information learned from HCWs is significant and vital to the design of interventions to support the successful implementation of PrEP among AGYW.

2.4 Experience of health care workers to prescribing PrEP to AGYW globally

In New York City in 2016, there were 882 new HIV diagnoses among individuals 13 to 24 years of age (24). Out of a total of 2,279 new infections, Seventy-nine of those new diagnoses were among individuals aged 13 to 19 years this is because the majority of new HIV infections occur among individuals between the ages of 13 and 24 years (24). It's and it's for this reason that researchers are calling on health care providers to consider educating patients about HIV prevention and provide biomedical interventions before a patient's 20th birthday to mitigate and alleviate the HIV pandemic.

Additionally, adolescents, especially minors, take many sexual risks in pursuit of autonomy and self-exploration with simultaneous poorly developed impulse control (6). It is clear that adolescents and young woman are, at least, as much in need of PrEP as individuals of other age groups. In a recent sample done in the state of 162 surveyed adolescent and young woman providers where 93.2% of the providers reported that they have heard of PrEP before at their facilities and in the media, however, only 35.2% of these providers indicated that they had previously ever prescribed PrEP to adolescent girls and young woman contributing to a gap in the service provision to adolescent girls and young woman (6). Furthermore in the same study Sixty-five percent of providers surveyed stated that they were "willing to prescribe PrEP to adolescents' ages 13−17," and this indicator was associated with the provider having enough knowledge to safely provide PrEP to adolescents to avoid causing harms to this age group as this is the most vulnerable age group (25).

Another study conducted in the state reported that 56 clinicians within the Adolescent Medicine Trials Network who provided care to HIV-positive adolescents where investigated of their attitudes toward providing PrEP to at-risk, HIV-uninfected adolescents and the study highlighted that, the primary outcomes of the study included (a) intention to provide PrEP to at-risk adults older than 18 years of age and at-risk adolescents younger than 18 years of age and (b) actual prescriptions to adults and adolescents in at-risk groups (7). Significantly more clinicians had prescribed PrEP to adults who are in sero discordant relationship than to adolescent.

2.4.1 Barriers related to PrEP use in patients younger than 18.

The researcher reported that clinicians identified and experienced two significant barriers to prescribing PrEP to adolescents: the perceived need for a multidisciplinary team and inclusion of behavioral interventions in the visit (7). These results suggested that even providers who were knowledgeable about PrEP needed abrief, streamlined and effective behavioral intervention that can be delivered with PrEP to adolescent girls and young woman.

Finally one of the clinicians' concerns with providing PrEP to adolescents is navigating how the adolescent can ultimately receive the medication without parental concern (26). Seeing that a portion of this age group 15 to 18 are minors. Insurance coverage and the concern of parental involvement is a prohibitory barrier for adolescents receiving PrEP. It becomes very important for clinicians to understand how their adolescent patients can receive PrEP beyond simply writing the prescription and not engaging their parents or guardian. Some health care workers highlighted that concerns about involving parents or guardian is critical because if they are not involved than adolescent will not adhere to the medication as they will be taking the medication in privacy for fear of being judged by their parents or being reprimanded (26)(7). It's for those reason where researchers are suggesting education and training about the resources available to cover provision of PrEP to adolescents is critically important for PrEP retention(18).

2.4.2 Lack of knowledge about PrEP guidance.

In Central America a study that was conducted with clinicians working with adolescents and young woman reported that health care workers were unfamiliar with clinical guidelines for PrEP use, especially in determining which adolescent are candidate for prep

use and appropriate dosing regimen with follow-up procedures (27). Fewer HCWs had low intent on prescribing PrEP, mentioning concerns about parental consent from adolescent's parents, medication adherence and suitability of primary care providers in prescribing and managing adolescent on PrEP. They also indicated that provider's education and tools to promote providers self-efficacy and AGYW adherence might improve provider's willingness to prescribe PrEP to AGYW (26).

The researchers also highlighted that Providers anticipated challenges in identifying adolescent girls and young woman who would be most likely to benefit from PrEP given their impression that many providers are not skilled and trained at discussing HIV risk behaviors with their AGYW, and that some AGYW would not accurately disclose information about their high-risk sexual and/or substance use behaviors to clinicians with fears of being victimized or reported to their parents or guardian (7). Concerns about potential unintended harms that could be associated with PrEP provision limited providers prescribing intentions. Providers worried that extensive PrEP use would broadcast and cause drug-resistant viral strains in the AGYW community which might be irreversible (25). Providers were more careful and cautious about prescribing antiretroviral medications for PrEP than for HIV treatment, as they believed that the tolerance for medication-related toxicities should be far lower when prescribing medications for prevention such as PrEP as compared to active disease like HIV. This caution establishes in the dichotomy that the exact same medication would be considered to be either safe or toxic depending on whether it was prescribed for prevention or treatment (25). Many providers believed that AGYW would increase their risky behaviors while using PrEP

(i.e., engage in risk sexual behaviors), which could potentially increase their overall risk for acquiring HIV should they not adhere to the medication (27).

2.4.3 Attitudes toward cost, resources and drug resistance issues related to prescribing PrEP

Providers further expressed concerns that PrEP could hinder and obstruct antiretroviral treatment programs by diverting society's limited financial resources towards prevention (6).The researcher noted that they have learned a great deal in the first 6 years of PrEP implementation in the United States, and this can be applied to the roll-out of PrEP for adolescents (26). However, adolescents have a unique set of needs when it comes to a biomedical intervention for HIV prevention. The health care community, for the first time, has an intervention that can prevent the transmission of HIV among at-risk individuals if taken correctly. Given the high rates of HIV in the younger age groups, they believe it's important to have a considerable responsibility to determine how to efficiently and safely provide this intervention to youth (26).

PrEP implementation in a younger population requires a new set of youth-focused guidelines, teaching points, and educational methodologies. The validated and legalize curriculum developed through the stakeholder-driven process may be an important contribution to help this age group. Preventing HIV transmission in adolescents is a national and international priority and is undoubtedly an essential step necessary to end the HIV epidemic.

It is noted and understood now that some provider reservations and doubt about PrEP were theoretical and speculative, including worries that patients would use PrEP in a manner that could compromise effectiveness (e.g., intermittent dosing) and/or that PrEP use could cause unintentional harms (e.g., spreading of drug-resistant viral strains, toxicities in healthy individuals, or behavioral risk compensation), even though none of these issues were noted in trials involving thousands of at-risk persons, providers were still reserved about prescribing PrEP medication to adolescent girls and young woman especially minors (22). Other concerns that providers were having were reasonable and understandable, such as whether it would be logistically feasible to provide PrEP in already busy HIV clinics where there are patients that needs extra care rather than caring for someone who is not sick.

2.4.4 Barriers related to antiretroviral medication side effects and poor adherence

Some HIV provider beliefs about PrEP were influenced by their experiences prescribing antiretroviral medications for treatment or for post-exposure prophylaxis, because of their known side effects. Now their worry is, can this age group be able to manage this side effects that come with this antiretroviral medication when in general they are not sick (22).

Providers reportedly had encountered HIV infected patients who did not adhere and obey to life-sustaining treatment and HIV uninfected patients who did not adhere to post-exposure prophylaxis regimens despite an awareness that they are at high-risk for HIV acquisition because of side effects they experienced after taking few doses. In light of these experiences and knowledge that adherence to PrEP was suboptimal in some efficacy studies, providers predicted that adherence to PrEP would be low in their care settings,

particularly as patients may consider daily PrEP to be less important than treatment or post-exposure prophylaxis, especially if their risks are occasionally and not all the time (4).

2.5 Experience of health care workers to prescribing PrEP in Africa

2.5.1 Higher negative attitudes toward adolescent sexuality and greater concerns about behavioral disinhibiting due to PrEP use

Adolescent girls and young women (AGYW) aged 15–24 it's the population that accounts for 25% of new HIV infections among adults in sub-Saharan Africa (20). In Namibia AGYW account for 0.99% of new HIV infections Study done in Tanzania reported stigma and discrimination toward adolescents seeking PrEP at health facilities(20). It is noted that a majority of health care workers described clinical environments where adolescents are often embarrassed, criticized, and judged by colleagues for being sexually active REF. Health care workers described witnessing and observing instances where unmarried adolescents are ignored, not provided enough attention as required for their healthcare need, and are being reprimanded for looking for sexual and reproductive health services especially PrEP (20).

In contrast, married AGYW are welcomed and receive good service that they are seeking for. Health care workers explained that one of the main reasons for such treatment of adolescents is because of Tanzanian culture and traditions that discourage young girls from having sex before marriage (20). Those who participate and engage in pre-marital sex are often stigmatized by their communities, including health care workers and they are labelled as being promiscuous and loose. This AGYW are seen as a bad example in

the society and close association with them is often discouraged. These cultural beliefs contribute to the hesitant about providing sexual and reproductive health care to AGYW (19). Majority of the health care workers noted that PrEP introduction is seen in the same light as it targets AGYW that are sexually active and not using condoms or have multiple sexual partners.

Health care workers voiced out hesitation toward PrEP as they feared its use and availability will result in AGYW abandoning previously trusted protective behaviors, such as condom use, and this will result in increased rates of sexually transmitted infection and unplanned pregnancies (28). A few health care workers were reportedly concerned about adolescents and young adults becoming sexually active at an early age due to PrEP and they stated that they have reservations on the availability of PrEP. Stating that adolescent girls and young woman may become careless and get involved in sexual activities when they know that there is a preventive measure for HIV available any time (7). AGYW had been living with fear of getting HIV infection and they were using condoms. Also, many had abstained from sex for fear of getting unwanted pregnancy; but they will revert back to bad habits.

2.5.2 Attitudes toward cost, resources and staff shortage

Furthermore Negative impact of PrEP on existing services was reported were health care workers expressed and conveyed many concerns about how PrEP will affect the care they provide to AGYW(11). HCWs felt that AGYW will be exposed to long waits that would hinder PrEP access and noted barrier to existing sexual and reproductive health services (19). HCWs theorized that should PrEP result in an influx of clients requesting the medication, there would be a shortage of staff to provide timely care. Some already noted

that staff shortages already exist within their facilities. Staff shortages will have a ripple effect whereby their individual workload would increase, leading to clinic congestion.

Some HCWs expressed the need for additional space to provide PrEP services to AGYW. Concerns about the possible and likelihood of PrEP drug shortages was raised and whether an adequate and sufficient supply can be maintained (7).

Should staff shortages increase or drug shortages occur, HCWs feared that these will result in low uptake and poor adherence to PrEP as clients would be turned-off by these possibilities.

2.5.3 Barriers related to AGYW change in behaviours with PrEP use.

In the western Africa an online survey of clinicians working with adolescent and young adults reported that more than 90% of clinicians have heard about PrEP before and they have agreed that PrEP prevents HIV but only 32% of clinicians were willing to prescribe PrEP to young adults and adolescent (28). Their willingness and perceptions to prescribe PrEP was strongly associated with the belief that providers had enough knowledge to safely provide PrEP to adolescent and young adults and that this medication may not be suitable for AGYW. Furthermore some health professional reported that PrEP was causing more harm than good citing reduction in condom use and that will bring a rise in sexually transmitted infection, medication non adherence that will contribute to new infections and drug resistance(19). It was further noted that only a higher percentage of physicians had a plan to offer PrEP to AGYW more than any other health care professional because they have a plan to address all the issues that may arise when initiating AGYW on PrEP.

2.5.4 Barriers related to biases, rooted in cultural norms

A study done in eastern Africa reported that majority of HCWs were willing to prescribe PrEP to AGYW at high risk once they are informed and given all the knowledge about PrEP via training (29). However, they recognized that biases, rooted in cultural norms, often result in stigmatizing and discriminatory care toward AGYW seeking PrEP (20). A majority of HCWs further described clinical environments where adolescents are often criticized and judged by colleagues for seeking PrEP services as their seen as promiscuous and too young to engage in sexually activities.

There has also been occurrences where single AGYW are ignored, and not provided enough attention and services they required for their healthcare need because tradition required single AGYW to be home and learning how to be good wives in future to their husband than going around heath care facilities in search of PrEP (29).

2.5.5 Negative attitude related to PrEP adherence.

Health care workers also quoted concerns about patient adherence and logistical challenges as threats and fears to successfully implementing PrEP in their health care settings (19). HCWs were aware that adherence to PrEP was suboptimal in several studies. HCWs believed that adherence was likely to be lower among persons using PrEP outside of clinical trials without the intensive counseling that was known to have accompanied PrEP provision in these trials (19). HCWs believed that adolescent girls and young woman who engage in the riskiest sexual behaviors would therefore be most likely to benefit from using PrEP but they would face the greatest adherence challenges as a result of personal social circumstances, such as poor commitment in medical care or substance abuse. The

HCWs anticipated that many patients would use PrEP intermittently despite counseling to use it on a daily basis, which could reduce or eliminate its protective benefits (30).

Health care workers were basing the above experience because Prior experiences with HIV-infected patients who are poorly adherent to antiretroviral treatment and PrEP is also part of antiretroviral drugs and need to be taken daily just like ART (30). There also have been claims that HIV-uninfected individuals who got exposed to HIV comes in for post-exposure prophylaxis regimens and they have not adhered to the medication ending up testing positive (30). This have generated concerns that many adolescent girls and young woman would not be adherent to PrEP (28).

There are fears that adolescent girls and young woman will only take PrEP in the weekends or when they go to sex parties (28). So, they will do it irregular, even if it's prescribed daily and not following collect regimen will contribute to new HIV incidence. Some health care workers in eastern Africa also cited logistical concerns included potentially burdensome clinical and laboratory monitoring of AGYW using PrEP (7). Furthermore they also stated that they anticipate time constraints that could limit the amount of adherence and risk-reduction counseling that practicing clinicians could provide to AGYW (7). Additional concerns included the high cost of antiretroviral medications and uncertainty of how long will PrEP be made available to AGYW.

2.6 The implementation of PrEP journey in Namibia

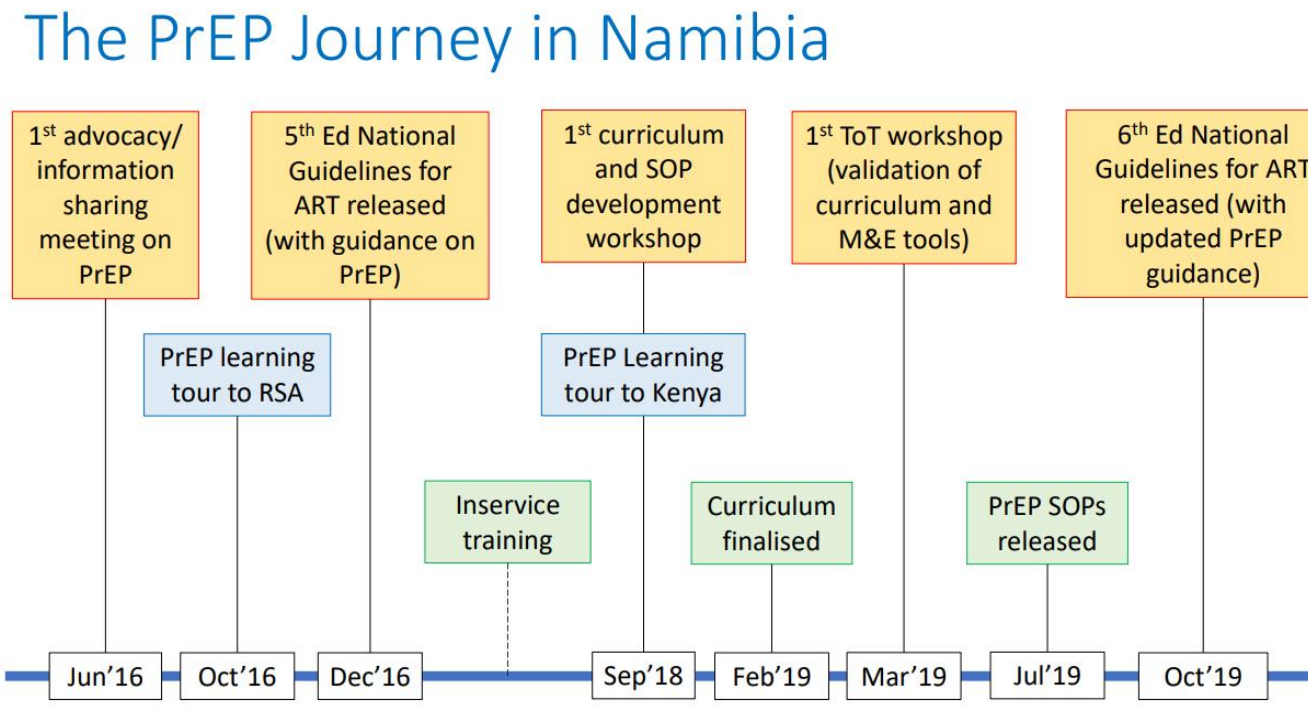

Figure 2.6.1 PrEP journey in Namibia Source: Namibia HIV clinician society (26)

When PrEP was first introduced in Namibia, it was prescribed mostly for key population and sero-discordant couples. PrEP is now offered as a component of the combination prevention package to anyone at substantial risk such as (31). Substantial risk includes people in sero-discordant relationships, those with recent/recurrent STIs and people with multiple and/or concurrent sexual partners. Furthermore, clients who use PEP on a frequent or recurrent basis, clients with history of sex whilst under the influence of alcohol or recreational drugs, individuals who use injectable drugs and individual in abusive relationships are also considered to be at substantial risk of HIV infection (31).

Namibia has been targeting priority population for Prep use such as:

- Sero-discordant couples, in which one partner is HIV positive and one partner is HIV negative.
- Family planning clients, because of the reported reduction in condom use among family planning clients.
- Patients with STIs, because clients reporting with STIs is an indication of no condom use in the relationship that involves multiple partners.
- Adolescent girls and young woman, because of risk of sexual relations with multiple partners where there is low rates of condom use.
- Sex workers, because they are more likely to engage in risky sexual behaviors with substance use.
- trans-gender women, and men who have sex with men, because of their biological vulnerabilities, sexual practice and social and economic disparities that affect them on how to accesses HIV prevention, testing and treatments.

Although PrEP can now be accessed by everyone, AGYW lack access for a variety of reason. According to international for training health care workers many AGYW are uncomfortable talking about their sexual practice (32). AGYW reported fear of being looked down by the health worker for seeking PrEP from previous experience of seeking sexual reproductive services (32). There have not been any studies that gauge health care workers experience in prescribing PrEP to adolescent girls and young woman. Hence, little is known about HCWs experience and intentions to prescribe PrEP to adolescent's girls and young woman and whether these intentions and experience are different from those toward prescribing PrEP to adults and older population. Even less is known about

modifiable factors that impact clinician intentions to prescribe PrEP to adolescent's girls and young woman (28). Such information is critical and important to the design of interventions to improve clinician adoption of PrEP, which is necessary to the successful use of this innovation by AGYW at risk of HIV thereby contributing to the reduction of HIV pandemic.

2.7 Chapter summary

In terms of patient interest in the studies it was indicated that many people who are likely to benefit from PrEP report interest in using it therefore educating providers about the results of these studies could modify their misconceptions about PrEP interest among at risk and vulnerable communities (8). In addition, public health campaigns that encourage patients to initiate discussions about PrEP with their providers could empower patients to directly request PrEP if they would like to utilize it therefore contributing to facilitating PrEP prescribing. Finally it give health care workers the desires to learn about peer practices when approaching prescribing decisions, informing health care workers that members of their peer group have already prescribed PrEP in routine practice and creating opportunities for providers to discuss prescribing experiences with colleagues could increase prescribing rates (19).

Learning that trusted colleagues have prescribed PrEP could alter health care workers beliefs about whether they should also prescribe PrEP to at-risk adolescent girls and young woman. Given the central role that health care workers are likely to fulfill in efforts to provide PrEP in diverse care settings. Interventions are needed to engage broader range of healthcare workers in PrEP provision (8). Ideally health care workers would have the

skills, time and positive attitude to conduct a comprehensive risk assessment as part of routine care for their adolescent girls and young woman, however assessment of sexual risk behaviors that influence HIV risk tend to occur infrequently in primary care (5).

Factors that was reported in multiple studies that are likely to contribute to suboptimal risk assessment practice include discomfort among providers and AGYW (32). In addition, health care workers generally receive minimal training on how to elicit a compressive sexual health history hence it is not surprising that more training or additional training is needed in this area. In addition, this literature review revealed that that assessing health care workers experience and perceptions regarding PrEP is needed to track the distribution of this innovation among these gatekeepers. Chapter 3 will describe the research methodology that was used to address the research objective.

CHAPTER 3: RESEARCH DESIGN AND METHOD

3.1 Introduction

This chapter discusses the research design and the methods which was used to find answers to the research questions. It defines the study population, sampling, data collection tool. The ethical consideration and subjects' rights are also explained in this chapter.

3.2 Research design

A research design is the plan according to which we obtain research participant and collect information from them (10). In this study the researcher used a qualitative, Phenomenology design. This approach has enabled the researcher to gain an understanding regarding health care workers experience on prescribing PrEP to AGYW.

3.3 Population

Population is defined as the study population of the entire group of persons or objects that is of interest to the researcher, or those that meets the criteria which the researcher is interested in studying (10). The target population for this study was health care workers working at public health centers in Windhoek who were prescribers of PrEP The public health centers had an estimated number of 58 HCWs.

3.4 Sample

Sample is defined as a fraction of the whole population which was selected to participate in the study, furthermore a sample is defined as group of people or items that are taken from a larger population for measurements and is able to represent the whole population and making sure that findings can be generalized to the whole population (9).

The information gathered from the sample must be able to be interpreted to the entire population from which the sample was chosen from. The sample was health care workers working at public health centers in Windhoek. The researcher recruited all the eligible health care workers that were available during data collection period.

3.5 Sampling and sampling method

With this study the researcher used a convenient sampling to recruit all the eligible health care workers that were available during data collection period.

3.6.1 Inclusion criteria

This study included all the health care workers who are PrEP prescribers working at public health centers in Windhoek, because of integration which allowed all the health care workers to give all the services to all age group.

3.6.2 Exclusion criteria

Health care workers who are PrEP prescribers and were on leave during data collection period were not part of this study.

3.7 Research instruments

A semi-structured interview guide with open ended questions was used as a research instrument for data collection technique. The interview guide comprised of questions exploring HCWs demographic datas, experience towards prescribing PrEP to AGYW and HCWs views on PrEP delivery services to AGYW. In-depth interview had taken place with the research participants through direct contact at their most convenient time. The interview was in English and the participants were interviewed individually.

3.8 Data collection procedure

Data was collected after ethical clearance was received from UNAM, MoHSS, PHC supervisor and facilities in charges. The researcher worked with the health centers management to agree on the date when the researcher can conduct the interview. Data collection took place for the whole of September 2022. Interviews were scheduled with those who agreed to be interviewed. Written informed consent was obtained from the participants before data was collected.

Face to face individual interview with the participants was conducted by the researcher at the participant's workplace during their most convenient time. Interviews was tape recorded using an audio tape by the researcher. All the participants that took part in the study consented to be tape recorded. One interview lasted for 30 minutes to 40 minutes. The researcher was available for any explanation needed by the research participants during data collections. The needs and preference of the participants was considered and they received appropriate support during the in-depth interview.

3.9 Data analysis

The researcher transcribed the recorded audio files (interviews) of the participants and arranged them systematically and converted them into a text format, and then reviewed the transcripts for accuracy. All the transcripts were verified against the original audio tape to ensure that the transcription and translation were accurate. The transcribed data was imported into a qualitative software program ATLAS.ti (Version 8.0) to assist with data analysis. Data were analyzed using thematic content analysis. Thematic content analysis involved a subjective interpretation of data searching for patterns of themes that emerges as important phenomenon under the study.

3.10 Data quality

3.10.1 Credibility

The criteria of credibility encompass that the results of a study are credible and believable from the perspective of the research participants in the study (15). The study aimed to understand health care workers experience on prescribing PrEP to AGYW at public health center in Windhoek, credibility in this study was only validated by the research participants as experience was described through their realities that they experienced when encountering AGYW.

3.10.2 Transferability

Transferability refers to the ability of study results to be generalized or transferred to other contexts or settings, furthermore the study finding's ability to be transferred largely depends on the person that is doing the transferability because they have a better understanding of the context for which findings can be utilized or generalized (15).

In this study the researcher facilitated the process of transferability by thoroughly describing the experience of the health care workers. Furthermore, transferability was ensured by thick description so that a meaningful participant experience and contexts is provided to the readers.

3.10.3 Confirmability

The principle of confirmability refers to the extent to which results can be confirmed or corroborated by others (15).In this study the researcher used a systematic process for data collection and data analysis. Interviews were tape recorded and the researcher also took notes during data collection period, which were used during data analysis phase to confirm

the findings. Research process were traceable and logical and documentation was kept at all time.

3.10.4 Dependability

The principle of dependability encompasses of the ability to get the same results if the same study or observation was done twice (15). In this study the researcher was unable to guarantee dependability of the results as the ever-changing context of the research.

3.11 Ethical aspects

Ethical approval to conduct the study was acquired from the Health Research Ethics Committee (HREC) of the University of Namibia. Subsequently, ethical clearance and permission was obtained from the Ministry of Health and Social Services (MoHSS) and at the health facility where data was collected.

Ethical principles were maintained in the following way:

3.11.1 Autonomy

Individuals had the right to decide whether to participate in the research or not furthermore they had the right to withdraw from the study anytime without them being discriminated or victimized. The researcher obtained written informed consent from each participant and no participants was forced to participate in the study.

3.11.2 Beneficence

There were no harmful, physical, psychological, emotional and social effects on the participants. The researcher had a briefing meeting with the participants to explain the consent form and the interview guide before starting with data collection procedure. This was all done to make sure that participants were at ease and to minimize any discomfort.

3.11.3 Non-maleficence

The researcher collected data at the participant convenience time and harmful questions was avoided or question that can offend the participants.

3.11.4 Justice and equality

Participants were treated in a fair manner and the researcher respected the initial agreement between the researcher and the participant during the study period furthermore, participants were provided with the researcher contact details for further information or clarity.

3.11.5 Privacy, confidentiality and anonymity

Participant's privacy was respected at all time during data collection. There was no information gathered and shared without the participant's knowledge and consent. Participants where not linked to any data collected during the study and information collected where treated with strict confidentiality and only the researcher know the origin of the information. The results were presented in a way that nobody was able to identify the participants.

3.12 Dissemination of research findings

Findings from the study will be disseminated to The University of Namibia, The Ministry of Health and Khomas PHC district office.

3.13 Summary

In this chapter the researcher gave an in-depth description of the research methodology. The study employed a qualitative phenomenological design. This approach had enabled the researcher to gain an understanding regarding health care workers experience on prescribing PrEP to AGYW. The population size, sample, and sampling method were discussed in more details. The researcher also explained the methods used in recruiting study participants, and addressed ethical issues.

CHAPTER 4: RESEARCH FINDINGS

4.1 Introduction

This section presents the data gathered, results done and interpretation of findings that are presented in table and graphs and themes. The chapter specifically presents the findings on the experience of health care workers on prescribing PrEP to adolescent girls and young women at public health centers in Windhoek, Khomas region. To describe health care workers, experience to prescribing PrEP to adolescent girls and young woman. All analysis in this chapter is based on responses given by the participants. A 3% of participants who were contacted refused to participate in the study due to various reasons, including being extremely busy, refusing to be audio-recorded, being busy with other responsibilities and being on leave.

4.2 Demographic information

Table 4.2.1 Age of participants working at the public health center in Windhoek Namibia, 2022

AGE IN YEARS	NO OF PARTICIPANTS	PERCENTAGE
Below 18	**0**	**0%**
18-25	**2**	**4%**
26-60	**48**	**96%**
61 and above	**0**	**0%**
Total	**50**	**100%**

The mean age of the HCWs who participated in the study is 28.5 years with a standard deviation of 7.70.

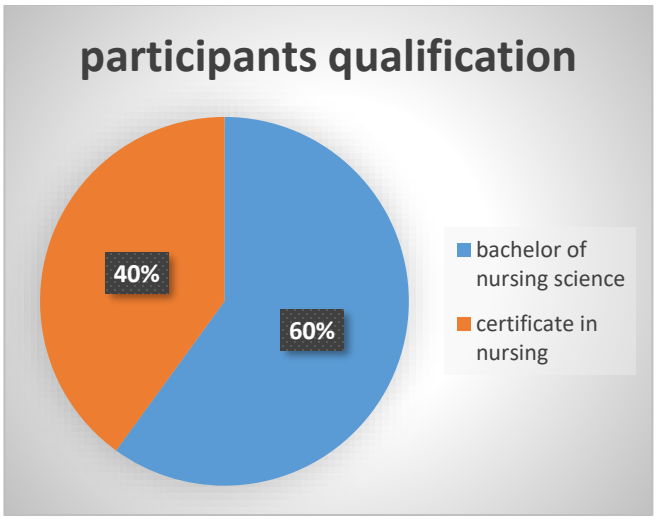

Figure 4.2.1 Participants qualification working at the public health center in Windhoek Namibia, 2022

The pie-chart above shows that 30 (60%) of the HCWs who participated in the study hold bachelors' degree in nursing science, while the other 20 (40%) of the participants have certificate in nursing science.

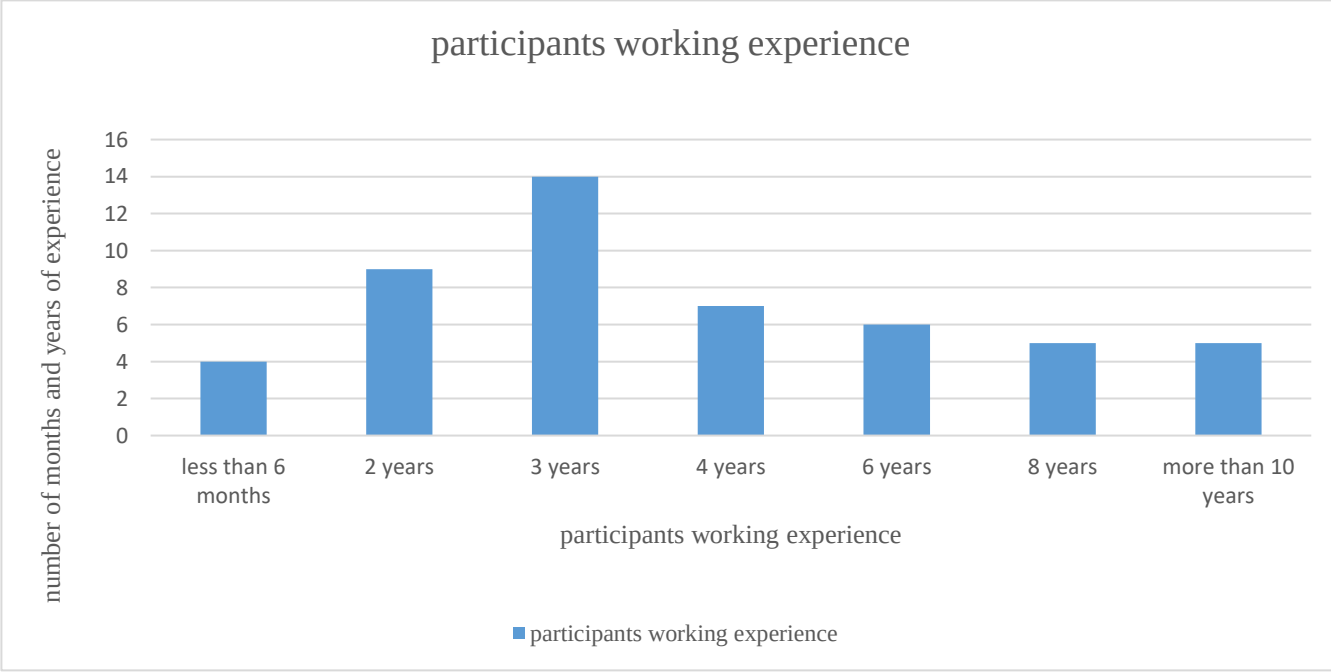

Figure 4.2.2 Participants working experience at the public health center in Windhoek Namibia, 2022

In the bar chart in figure 4.2.2, it is depicted that most of the HCWs who participated in the study have been working for 3 years,14 (28%), about 9 (18%) have 2 years working experience and the other 7 (14%) have 4 years' experience and 6 (12%) have 6 years' experience, respectively. There was only a 10 (20%) of HCWs with more than 8 years' experience.

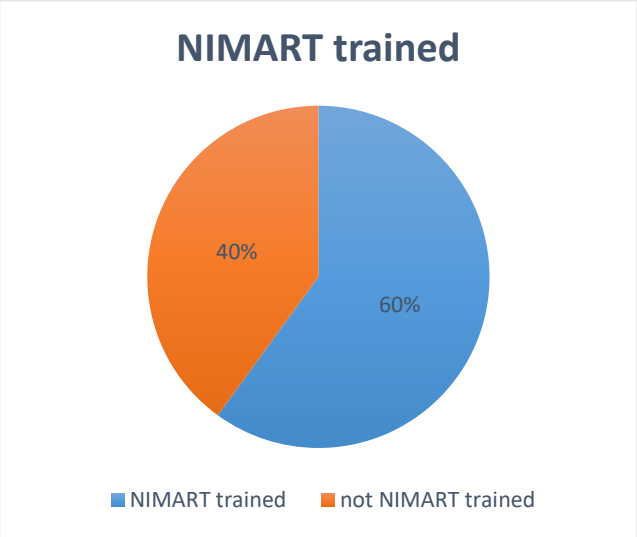

Figure 4.2.3 NIMART trained nurses working at the public health center in Windhoek Namibia, 2022

About 30 (60%) are NIMART trained, while only 20 (40%) HCWs who participate in the study are not NIMART trained.

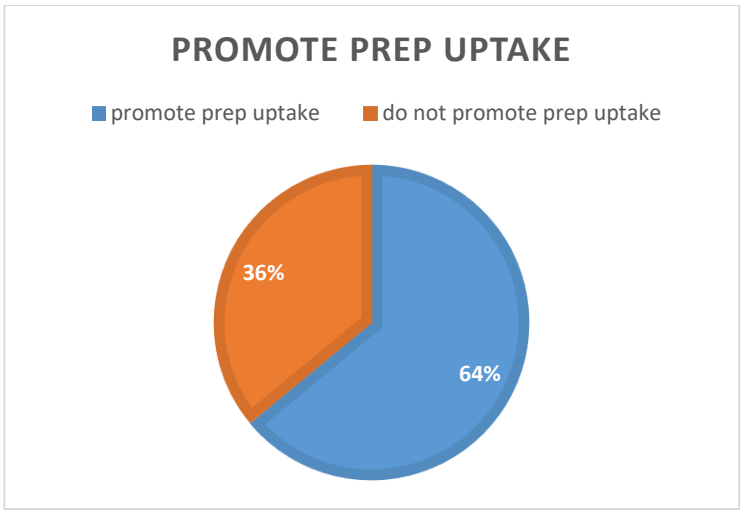

Figure 4.2.4 Health care workers Promoting PrEP uptake working at the public health center in Windhoek Namibia, 2022

It is indicated in figure 4.2.4 by 32 (64%) HCWs who participated that they promote PrEP uptake while the other 18 (36%) of HCWs) indicated that they do not promote PrEP uptake.

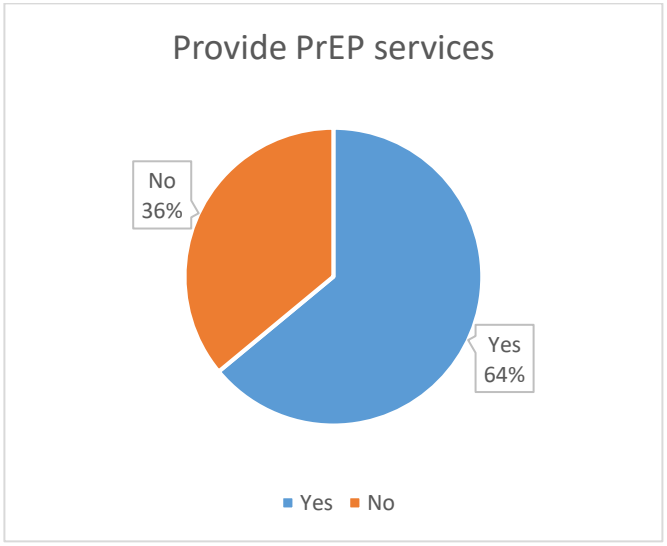

Figure 4.2.5 Health care workers providing PrEP services working at the public health center in Windhoek Namibia, 2022

About 32 (64%) of nurses provide PrEP service while the other18 (36%) of nurses do not provide the PrEP services

4.3 PrEP prescription to AGYW

These findings highlight nurses experience with providing pre-exposure prophylaxis to AGYW and how they provide health education to AGYW highlighting HIV risks. Furthermore, it also highlights how the AGYW misuse the PrEP pills.

4.3.1 Experience

4.3.1.1 HCWs with experience

It was revealed by some HCWs that they have a valuable experience in providing PrEP to adolescent girls and young women through engaging them to identify if they are eligible and if they need the services. It was also indicated by some HCWs that they are experienced because they have been prescribing PrEP to AGYW. One HCWs shared their experience in working with the AGYW that they are not free to communicate their needs with fear of being judged since they are too young, and they cannot request services such family planning and PrEP.

"…when it comes to other services, they are free but not with sexually and reproductive health, for example when they come for STI services they will start with general complaints like headache and narrow it down before coming to the point where they really want to be helped." (Participant no 8)

The same participants indicated they possess vast experience because they find ways to ask the AGYW and how to develop relationships that make them comfortable. It is also indicated by one experience participant that providing PrEP to AGYW is also affected by the location where the service is being provided, for example ART health facilities which encourage stigma related to being HIV positive. It was shared by one the HCWs that their experienced is associate with provision of health education to young girls for them to know what PrEP is and why is it essential for them. In addition, it was also highlighted

that also sharing information on the side effects of taking oral PrEP promote the trust between you and the young clients. Some participants stated that they have experience, and they are trained to provide PrEP services.

"if you tell the AGYW to go access PrEP at the ART rooms they simple just turn away and go and do not want to be seen at the ART site" (participant no 31)

It was indicated by one of the participants that their experience with PrEP provision is advanced, because she provides information based on age and pre-knowledge. The participant indicated that with some AGYW they already have a basic understand on how PrEP work. In addition, it is also stated that younger participants are difficult to convince as opposed to older participants.

"I have prescribed prep for the past 2 years to AGYW and it has been a good experience".

"When it comes to prep I have experience because I have worked with AGYW, and I know how to prescribe prep to them and in addition I also provide them with information about how prep work and who should get prep".

4.3.2 Health Education

It is also indicated that through health education the HCWs identify the HIV risks and use them as a tool to convince the AGYW to take PrEP. It is indicated by one of the experienced HCWs that they provide information about PrEP and reason why the AGYW should consider getting PrEP.

"*I will say I support the AGYW by making sure i provide them with enough information, through health education and if there is aneed for me to call them I will contact them for those that are already on prep to find out if they are coping with prep and if they have any*

questions that they want me to address just to make sure that they do not have any concerns and they are well informed about prep" *(participant no 5)*

4.3.3 Peer Pressure

It was indicated by some participants that AGYW take PrEP at the facility simply because their friends are also taking PrEP and dispose the medicine after, they only visit the health facility since it creates an opportunity for them to spend more time with their friends.

"Some AGYW come to the clinic accompanying their friends and if they see them taking PrEP or see them coming out with PrEP pills, they also come request for them and when you call them for their follow-up date, they will say that they never drank the pills" (participant no 42)

"Some of the young girls are just being influenced by their peers because when they come to health services, they take any services that their peers are taking" participants no 43

4.4 Offering PrEP services to AGYW

These findings highlighted HCWs that were in support of PrEP prescription to AGYW and those that were not in support of prescribing PrEP to AGYW. In Addition, it also highlights age groups of nurses that were comfortable and in support of PrEP prescription to AGYW.

4.4.1 Supporting PrEP

It is indicated by majority of the HCWs that making PrEP services available is of high beneficial to AGYW since this age group is at substantial risk of contracting the HIV virus, and this will help avert new HIV infection. It was also highlighted that the one advantage of PrEP to AGYW is because they are among the population group that is

getting infected with HIV. Participants also indicated that providing PrEP services promote and encourage AGYW to get tested for HIV and maintain their HIV negative status.

"I believe that the provision of PrEP among AGYW is needed and should be strengthen because this age group is engaging in reckless sexual behavior and prevention is needed and when they're on PrEP than one is rest assured that every now and then they will be coming for HIV test and it will encourage them to remain negative" participant no 45

It is also noted that the AGYW age group is vulnerable to HIV and GBV which increases the risk of them getting infected with HIV, because they may not know how to protect themselves from HIV or negotiate for safer sex with their partners. Furthermore, they highlighted that since they are engaging in sexual activities with older people who can infect them, taking PrEP will protect them against HIV. It was pointed out that parents will not prevent the AGYW from engaging in sexual activities, if they are already sexually active, thus ensuring that they have access to PrEP assure that they remain HIV negative.

"*I believe that nothing will stop these young girls from engaging in sexual activities and some are already active without their parent's knowledge" (participant no 8)*

It is stated by some participants that PrEP services is a good initiative to ensure that it protect the younger population from HIV exposure and that it is essential for the AGYW to be educated on HIV related issues and to try to eradicate HIV by using PrEP. In addition, the participant proposes an expansion of HIV knowledge to ensure inclusive of all AGYW wherever they are.

"*I feel like PrEP should be available to girls in every facility, personally I feel like it is a right thing, one might say a girl is too young for prep, but she might be already engaging in sexually activities, and this might even be unprotected sexual intercourse, so it is to be safer than sorry." (Participant no 10)*

4.4.2 Not supporting PrEP

One participant indicated that provision of PrEP services to AGYW promote reckless behaviors which is unsafe sex for other STIs and biological outcomes. It was also noted by some participants that this will lead to unprotected sex and having multiple sexual partners, which may be against some cultures.

"*I feel like giving PrEP to AGYW is giving them a free ticket to go have unprotected sexual intercourse and increasing to teenage pregnancy because these young girls might think that since that they are on PrEP than there is no need for condom use" (participant no 26)*

In addition, it was indicated that while giving the information to beneficially and to those who really needs them it can promote the use of PrEP and reduce new HIV infections but on the other hand it might promote engaging in sexual activities at a tender age and leads to multiple sexual partners. Another participant indicated that, providing PrEP install a notion of having freedom to sexual activities even when they are too young which will also increase the chances of unplanned pregnancy at the early age.

"I honestly feel like prep is a good service for AGYW and at the same time I feel like its promoting reckless sex whereby AGYW will now have freedom to be engaging in unprotected sex and having multiple sexual partner, I really feel like its promoting

reckless behavior among AGYW, although I understand that its beneficial for those who really needs it but otherwise for those without proper information might think it's a ticket for them to start having intercourse even when they are very young and they can start having multiple sexual partner". Participant no 6

4.5 Comfortable prescribing PrEP

It is indicated by most of the participants that they feel comfortable providing PrEP to AGYW, and they have prescribed prep before to AGYW. They stated that they are comfortable providing PrEP because they understand the need of prevention.

"I'm comfortable prescribing PrEP to AGYW because it is stated in the guideline that it can be used by anyone from the age of 15 years old" (participant no 40)

In addition, some participant stated that they provide PrEP to AGYW simply because they took an oath as registered health care providers and that they are there to deliver service to everyone who needs it so that makes them comfortable providing the services, but they are not comfortable with o PrEP provision to AGYW, since they are young.

"This are young girls to put on PrEP medication, I do not think it is a right thing to do since they are still young but we took an oath to provide services to anyone in need." (participant no 39)

It is revealed by some participants that they are assured that PrEP works, and it is a useful medicine, thus, they are comfortable providing them to AGYW. Participants also stated that PrEP is taken once a day, it is better for them to use it because some girls do not even use protection when they are engaging in sexual activities.

"*Young girls are vulnerable and they can be coerced into risky sexual behaviors and giving PrEP to them is protecting them from ending up HIV positive" (participant no 3)*

Furthermore, they also stated that these AGYW's partners may discourage the use of condom which can increase the risk of contracting HIV, thus taking PrEP will protect them when they cannot negotiate for safer sex. HCWs also noted that they are comfortable giving PrEP and that makes them want to offer it to AGYW since it protects them against HIV infections.

I have seen a client who have been living with a positive partner for about 10 years and she is still negative because she is on PrEP, and that make me believe that when PrEP is correctly used, it can really work. (Participant no 1)

HCWs stated that the ultimate goal is to stop the spread of the HIV virus. The HCWs also indicated that they are comfortable, it is just necessary to provide the AGYW with correct information. HCWs also added that if the AGYW understands the benefits of taking PrEP, then the HCW will feel comfortable prescribing PrEP to them. Other participants highlighted that they are comfortable because they are also young females and know what girls go through.

"I am young and I can relate to these young girls, sometimes you just cannot say no to no condom use and most of the times male partners do not have time to go for HIV test at the facility" (participant no 10)

HCWs indicated that AGYW are in their flourishing age group and the participants does not want to see the AGYW getting infected while they have goals to achieve. It was also noted by one of the participants that they are extremely comfortable providing PrEP to

the AGYW because they wish to see the AGYW grow up safe since there is high rate of HIV infections among AGYW age group in Namibia. One participant also indicated that they are comfortable providing PrEP services because they are aware that the young women are engaging in sexual activities regardless, thus putting them on PrEP is wisest decision a HCW can do.

"young girls are engaging in sexual activities and providing PrEP to them is to put them in control of their own lives and their own future, protecting them from HIV should be ultimate goal and not judging them hence why I think prescribing PrEP to them is the wisest thing to do" (participant no 12)

4.5.1 Age

One participant indicated that they could do it to a certain extent, since because adolescent girls may just seek PrEP because their friends are taking PrEP, while some AGYW may request PrEP because they need it. It is indicated by one HCW that they are comfortable giving PrEP services because they are also young, and they are trusted by the AGYW.

The young participant also indicated that these clients (AGYW) partner are refusing to get tested for HIV, or have multiple partners, then the HCW recommends PrEP to AGYW for use.

"I am comfortable prescribing PrEP to young girls, but when it comes to older HCWs they think that PrEP is mostly for prostitute." (Participant no 17)

Mostly older HCWs think that when other HCWs are prescribing PrEP to AGYW than they are encouraging them to have multiple sexual partners but that is not the fact because

AGYW are already engaging in sexually activities making them more prone to contracting HIV.

(Many AGYW prefer asking PrEP from younger nurses because they feel that older nurses will judge them and will ask them a lot of questions") (participant no 50)

It is also indicated by one of the participants that they are only comfortable providing PrEP from the age of eighteen and above, they stated that the age below 18 they are too young to engage in sexual activities and they should just focus on school. Some of the HCWs indicated that they can provide PrEP to younger girls, if the girl really feel that they are at risk of acquiring HIV.

4.5.2 Information

The participants stated that they are comfortable providing PrEP services because they have enough information that help them in provision of PrEP services, furthermore they also indicated that they inquire for more information from the AGYW to ensure that they are providing PrEP services to people who need it and for the period they need it.

"yes I am comfortable provided that I provide the AGYW with enough information to make the right decision, so that they can be comfortable with taking and committing to PrEP" (participant no 8)

It was also indicated by one of the HCWs that they are comfortable because the ART guidelines state that as long as the client is 15 years old and above with no contraindication and at risk of HIV, they can be provided with PrEP, which is actually benefiting the AGYW. Another participant pointed out that they are trained to provide PrEP and they

have all the information they need to provide PrEP, the participants indicated that if the clients (AGYW) is at risk and is eligible for PrEP, they will provide the service to them.

4.6 Health care workers support on PrEP use among AGYW

It is stated by the participants that there are a lot of interventions they do as health care workers, to make AGYW understand that they should protect their life and also make them aware of stigmas that they may encounter related to PrEP uptakes. Also, the HCWs ensure that the AGYW understand that are doing it for themselves. The health care workers also support them by identifying their needs and encourage them to take PrEP until when they are comfortable negotiating for safe sex with their partner or when the think they are no longer at risk. The health care workers also support AGYW to be confident in taking PrEP even if they experience stigma. It is also indicated by the participants that they encourage them and remind them of the main importance of taking PrEP that it is for their own protection. There is one participant who illustrated that they support AGYW simply by not denying them PrEP.

"If they decide to take PrEP, I will support them by following their own decision to start prep. If the person chooses to be on prep than yes." (Participant no 20)

The research found out that providing support by following-up AGYW and providing more information when they have question improve PrEP adherence. Some health care workers give comprehensive adherence counseling and more health education which promote PrEP awareness.

4.6.1 Information, Education and Communication

The HCWs indicated that they provide more information regarding the side effects, adherence, PrEP follow-up and advantage of taking PrEP to AGYW and this put them in control of their own lives. These motivates the AGYW not to be discouraged by society's opinion. Some HCWs indicated that they motivate AGYW to continue taking PrEP to be able to maintain the HIV negative status and also, provide crucial information about protective methods to AGYW who are at HIV risk.

"I provide AGYW with enough information about PrEP so that even if they go out there and find someone discouraging them to take the PrEP pills, they will know why they need it and when to return to the facilities be it for follow-up or further information" (participant no 44)

It is alluded by one HCW that, AGYW need more education on PrEP and its needs and health care workers need to support them. This will improve their adherence and personal assessment of risk of exposure. In addition, it is stated that health care workers need to ensure that AGYW understand the reasons they are taking PrEP, since this will improve their adherence. It was also pointed out that HCWs should investigate and understand the reason for poor PrEP adherence for AGYW who are already actively taking PrEP.

"*Providing enough information about PrEP to AGYW will help to improve on the PrEP uptake for those at risk and I believe it will also strengthen adherence especially after one-month follow-up" (participant no 26)*

Moreover, one participant stated that they provide PrEP information, such as eligibility its importance and why the AGYW should stay on PrEP.

It is stated by the participants that providing comprehensive information through health education and contacting those who are already on PrEP to find out how they are copying with PrEP and if they have questions that they want the health care workers to address encourage them to stay on PrEP. In addition, the participant also indicated that they try to find out if the AGYW are experiencing any side effects. Another participant stated that they provide information about PrEP including side effects so that the AGYW make the right choice depending on their personal assessment of risk behaviors.

Some of the participant highlighted that they support AGYW to take PrEP, by providing enough information on how and when to take PrEP medication and also when to stop taking them. Another participant who supports AGYW through health education stated that they provide information on PrEP and motivate them to feel the importance of HIV negative in relation to achieving her goals. It is stated that the participants also notify the girls of what they should expect with regards to PrEP side effects. The health care workers pointed out that they educate the AGYW because sometimes they approach the health facility with myths around PrEP. Thus, when they come for follow-ups, health care workers should emphasize on the adherence to ensure that PrEP is effective.

"Some of the young girls have so many misconceptions on prep and believe in so many myths about PrEP and I always address them through health education when they visit the facility" participant no 29)

It was recommended by the health care workers who participated in the study that facilities should provide a comprehensive health education to boost awareness of PrEP among AGYW, especially those with risky behaviors and to educate them on risk

reduction methods and encourage AGYW to stay on PrEP for as long as they feel that HIV risk persist.

In addition, the health care worker recommended community education to eliminate stigma around AGYW taking PrEP and forming up of groups such as teen clubs for them to have a platform to engage each other.

4.7 Health facility status on provision PrEP and other SRH services to AGYW

4.7.1 General health facility

The health care workers (HCW) indicated that they are doing well by looking at the retention for AGYW on PrEP. It is also revealed that young girls are opening up to discuss the issues around sexual and reproductive health with the HCWs and this is a sign that they are comfortable. It was also indicated that by one of the participants that the facility is doing well in provision of PrEP services, however, not all departments are providing the services to AGYW.

"The facility is doing well when it comes to PrEP provision to AGYW but only in some departments because some departments refuse to offer PrEP to AGYW and they always refer them to other department where they end up receiving the services" (participant no 37)

The AGYW are being discouraged in some department to take PrEP and family planning and they are being told that they are too young, and PrEP will promote prostitution and reckless behaviors. There is a need to sensitize PrEP and sexual reproductive health for AGYW in all departments within the health center. In addition, AGYW were reported not coming for follow-up because they were discouraged by the HCWs. It is recommended

by one health care worker who participated in the study that it is important to always be friendly and offer services that AGYW need without being judgmental. Some participants indicated that the facility performance depends on the number of girls and young women who turn up at the heath facility.

It is revealed by health care workers that the PrEP provision at the facility is fair because all the HCWs are comfortable providing PrEP, even though some HCWs believe that some girls are incredibly young to engage in sexual activities. The latter stated to be the reason why PrEP is a sensitive issue in the community and some health care workers believe that those that give prep are encouraging adolescent to be having sex. The study also found out that the facility is doing well because those responsible for giving those services are well trained, especially with PrEP, and there is screening for SRH at the facility, thus PrEP services is not denied to AGYW. Also, the HCWs that participated in the study indicated that the facility is doing well, when it comes to PrEP and SRH because some of girls they initiate on PrEP give information to other girls or on some occasion bring in their friends. It is also noted that when AGYW are informed about PrEP they come back requesting to be initiated.

It is pointed out by the participants that stigma is one of the reasons that the facility is not doing exceptionally well in provision of PrEP services. Moreover, some of the HCWs believe that some of these girls are too young to be taking prep and family planning. It was further stated that this created a biased relationship between the HCWs and AGYW which lead to lower-than-expected PrEP initiation in this age group.

4.7.2 Youth friendly corners within the health facility

It is stated that the PrEP uptake in the general health facility is not high, but it is higher at the youth-friendly rooms around and within the health facility. It is also indicated that that the sexual and reproductive health services are also offered in the same corners.

"Most of the AGYW go access PrEP at the youth corner because they are comfortable with the nurses there and the nurses at the health comers make PrEP as one of their main services among others" (participant no 12)

Furthermore, some participants noted that AGYW are more comfortable going to the consultation rooms where there are young HCWs as opposed to older HCWs. This is because, the young ones are less judgmental, and they understand the modern lifestyles better, and with that they can initiate three to four girls with some restarting PrEP. It was also stated that there is a DREAMS corner within the health center and AGYW are more comfortable to be attended at DREAMS, and the services there are faster as opposed to being with the general population.

4.7 Chapter summary

This chapter provided the study findings. The majority of the participants were females above 26 and were NIMART trained. Majority of the participants were willing and comfortable in prescribing PrEP to AGYW. However, there were participants stating that prescribing PrEP to AGYW could promote risky sexual behavior among AGYW that will increase unwanted pregnancy among AGYW because there will be reduction in condom use. The next chapter contain discussion, conclusion and recommendations of the study.

CHAPTER 5. DISSUCUSION, CONCLUSION AND RECOMMENDATION

5.1 Introduction

In this chapter the researcher presents the discussion and conclusions drawn from the findings of the study. The recommendations which are based on the evidence from the study are also outlined. The main objectives were to explore health care workers experience to prescribing PrEP to adolescent girls and young woman at high risk of HIV infections and to describe health care workers experience to prescribing PrEP to adolescent girls and young woman.

5.2 Discussion

Literature review in this study reveals that the use of oral PrEP can aid and support in achieving HIV epidemic control among AGYW, where high HIV incidence rates continue to be worryingly high. Understanding how to successfully and efficiently introduce and deliver PrEP to AGYW to ensure they can access, use, and adhere to it is critically important to reducing incidence among AGYW. Health care workers are crucial for the success of PrEP implementation because they are needed to provide and promote this service to AGYW. It is already known that oral PrEP has the potential to reduce HIV acquisition among adolescent girls and young women (AGYW). However, health care workers' experience, perceptions and interactions with potential clients can substantially influence effective provision of PrEP service to AGYW.

Therefore, this study sought to gauge health care workers experience when it comes to prescribing PrEP to AGYW. To establish the relevance of prescribing oral PrEP to AGYW, it was necessary to explore participants' experience about prescribing oral PrEP

to this age group. This is important because it initiates conversations about measures that AGYW can take to protect themselves and the support HCWs have to offer to this vulnerable age group.

Overall, a large number of health care workers were willing to prescribe PrEP to AGYW. They indicated that PrEP services availability is of high beneficial to AGYW since this age group is at substantial risk of contracting the HIV virus, and this will help avert new HIV infection. However, there were participants that indicated that provision of PrEP services to AGYW promote reckless behaviors which is unsafe sex for other STIs and biological outcomes. This was one of the identified key barriers to health care workers prescribing of PrEP to AGYW. Health care workers biases toward AGYW's sexuality are grounded in cultural norms and often result in stigmatizing and discriminatory care experienced by AGYW. These biases can negatively impact AGYW's access and use of PrEP, whereby health care workers who hold these types of attitudes and beliefs will be less likely to provide PrEP to AGYW.

A number of health care workers were also not free to prescribe PrEP to AGYW because of fear that when they are seen by their colleagues prescribing PrEP to AGYW than it's labeled like they are encouraging AGYW to have multiple sexual partners or to start engaging in sexually activities freely. In addition, health care workers were worried that this will install a notion of having freedom to sexual activities even when they are too young which will also increase the chances of unplanned pregnancy at the early age. Despite numerous perceived barriers health care workers believed that PrEP is efficacious and if used consistently with AGYW requests and with enough awareness it would motivate them to prescribe it to AGYW.

A qualitative study among health care workers in Tanzania found that discrimination and stigma by health care workers toward AGYW clients poses a significant challenge to PrEP implementation (20). To overcome and address these challenges, health care workers should be provided with regular training to provide high-quality, patient-centered, and youth-friendly services (20).

Additionally, regularly monitoring of service delivery can identify when refresher trainings are warranted for health care workers (21). The current study revealed that AGYW are comfortable in accessing PrEP at youth friendly corner highlighting the need for regular trainings that are AGYW focused.

Studies conducted in the United States and Latin America have also noted that lack of training of health care workers serve as a main barrier to PrEP provision to AGYW (8). A critical aspect of training was recommended to center on stigma reduction regarding PrEP use among AGYW. A qualitative study done in western Africa reported that fewer clinicians were willing to prescribe PrEP to AGYW stating that they did not have enough information and knowledge to safely prescribe PrEP to AGYW (6). There was fear that this medication may not be suitable for AGYW and it will bring a rise in STIs, unplanned pregnancy and medication non adherence (9). While the current study has also reported on participants stating that PrEP use can increase reduction of condom use among AGYW, WHO report that PrEP is safe for use in AGYW and can aid in reduction of HIV incidence.

Previous study done in New York city reported that AGYW take many sexual risks in pursuits of autonomy and self-exploration (11). In addition, it also makes it clear that AGYW needs PrEP just as much as any individual in other age group. It is reported that

93.2% of HCWs have heard of PrEP before at their facility and in the media and among than percentage only 35.2% of these HCWs have previously prescribe PrEP to AGYW (11). This is clearly an indication to a gap in service delivery among AGYW. While another study done in Boston reported that clinicians had intentions to prescribe PrEP to at risks adults older than 18 years of age highlighting that adolescent under the age group of 18 needs parental consent and support (16).

The current study revealed that more than two-thirds of the participants were willing and comfortable in prescribing PrEP to AGYW highlighting that they are engaging in risky sexual behaviors and are sexually active without their parent's knowledge and denying them the service will hinder the epidemic control.

Study done in central America with clinicians working with AGYW reported that HCWs were unfamiliar PrEP clinical guidelines, especially in determining which AGYW is a candidate for PrEP and appropriate dosing regimen with follow- up procedures (17). Therefore, fewer HCWs had low intent on prescribing PrEP to AGYW. The current study has highlighted that training among health care workers is crucial to the implementation and roll out of PrEP programs among AGYW.

5.3 Conclusion

In summary the findings highlighted that AGYW are not free to access SRH services and communicating their needs for fear of being victimized and judged. Health care workers had greater intention to prescribe PrEP to adults compared with AGYW because of fear that provision of PrEP services to AGYW can promote reckless behaviors among AGYW at a tender age and can lead to unplanned pregnancy and sexually transmitted infection.

Some HCWs stated that they have a valuable experience in providing PrEP to adolescent girls and young women through engaging them to identify if they are eligible and if they need the PrEP services. Some HCWs indicated that they are experienced because they have been prescribing PrEP to AGYW for some period. In addition, some AGYW come access PrEP because of peer pressure making it difficult to determine who is really at risk of contracting HIV virus and who is not. Some health care workers also highlighted that prep should be made available to AGYW at all facilities across the country because there is no evidence highlighting that PrEP promote reckless sexual intercourse.

The one ultimate advantage PrEP have on AGYW is that it puts them in control of self-protection when they cannot negotiate safe sex with their sexual partner. The study findings also highlighted that AGYW are not free to interact with older health care workers because older health care workers perceive PrEP to be for prostitution and that it encourages them to have multiple sexual partners. Poor adherence was reported among AGYW that are taking PrEP creating a barrier for effective use and daily dosing of PrEP is recommended for population at risk. Furthermore, it is noted that not all departments in the health facility are providing PrEP services to AGYW and discouragement to take PrEP and family planning is noted in some departments.

Preparing for PrEP introduction requires more than only training HCWs on the clinical aspects of providing PrEP to AGYW. It requires addressing HCWs' biases regarding sexual health services to AGYW and addressing issues of putting young girls on this medication. It is important to the health system infrastructure for the introduction of PrEP to AGYW because participant's highlighted that PrEP helps keeps AGYW safe from HIV and the ultimate goal is to stop the spread of HIV.

Furthermore, it is dual important that a complete and regular on the job training that incorporates sensitization on caring and working with AGYW are given to HCWs on yearly basis. Health care workers perceive substantial theoretical and logistical barriers to prescribing PrEP to AGYW, but several facilitators like age, addressing side effects and parental concerns could motivate their prescribing behaviors. PrEP implementation to AGYW in health facility may be limited unless interventions are developed that can address HCWs concerns. Decreasing perceived HCWs barriers related to PrEP use in patients younger than 18 are an important step in improving access to PrEP for adolescents. Additional studies to develop and test such interventions are necessary.

5.4 Recommendation

From the findings of the study, it is that indicated that health care workers lack training for services that are adolescent friendly, information is not provided on how to asses AGYW that are at risks of HIV and only few departments are sensitized on the risks of HIV AGYW face on a daily basis and the provision of PrEP among AGYW. The researcher made the following recommendation.

5.4.1 Training of health care workers on adolescent friendly services

Becoming a youth friendly service provider not only does it ensure that young people get the care they need but it also contributes to an increasing health impact. AGYW have many presents needs, concerns and valuable contribution to the society therefore investing in their health not only does it improve public health but in also contribute to the country potential stability and progress. Health care workers have important contribution to make in helping AGYW get back to good health. This can range from:

- The provision of information, advice counselling and clinical services aimed at promoting health and preventing health problem and problem behaviors.
- The diagnosis, detection and management of health problem and problem behaviors that AGYW might experience
- Referral to other health and social providers when necessary

The use of a quality-of-care framework in the development of such needed trainings can ensure that all appropriate domains of care are sufficiently covered. This type of initiative can help ensure that:

- Health care workers are non-judgmental and considerate in dealing with AGYW.
- Health care workers have competence needed to deliver the right health services to AGYW in a right way
- When approached by AGYW they need to start with less threatening questions.
- Health facility are equipped to provide AGYW with the health services they need
- Health care workers are appealing and friendly to AGYW
- AGYW are aware of where they can obtain the health services they need
- Communities' members are aware of the health services needs of different groups of AGYW and support their provision.

5.4.2 Adopting HIV risk assessment as a standard of care for all AGYW

Risk assessment helps to identify individuals at risk of HIV. Preventing new infection with HIV is an important necessary component of stopping the epidemic and moving towards an era of HIV free generation. Adopting HIV risk assessment as a standard of care for all AGYW will make HCWs improve on the ability to identify PrEP candidates

among AGYW, furthermore it will also improve their interest and ability in encouraging PrEP uptake among this vulnerable age group. This will contribute to increase utilization of continuous care management to ensure that retention and adherence among AGYW. All AGYW visiting the health facility and are sexually active need to be screened for HIV risk, asking about sexual history and history about sexual transmitted infection. Health care workers need to do this by assuring confidentiality and explaining why it is important.

5.4.3 Sensitizing and training health care workers about PrEP and sexual reproductive health for AGYW in all departments within the health center

- Training and equipping all health care workers with the knowledge and skills to initiate and manage AGYW on PrEP.
- Training health care workers on how to identify eligible AGYW for PrEP.
- How to counsel AGYW that are on PrEP
- How to monitor AGYW that are on PrEP to sustain good adherence and to ensure that they return for follow-up visits

5.4.4 Increasing AGYW interest in PrEP

Training in this area will require to builds on risk assessment and identification of strategies where HCWs will be trained to give health education effectively about PrEP and engaging AGYW in the process. Making AGYW understand their risk and having a will to protect themselves from HIV acquisition can influence uptake of oral PrEP among AGYW. Addressing perceived stigma in the society can also contribute to the interest of PrEP uptake. Making PrEP seen as a tool for maintaining a HIV negative status and not just part ART medicine can influence AGYW to seek PrEP.

5.4.5 Emphasis on PrEP retention and adherence

Training of health care workers should include emphasis and focus on HIV testing, assessing PrEP side effects, providing ongoing support to AGYW and risk reduction counselling. The most important way to support adherence is to offer PrEP as a choice to AGYW. Support for adherence should include information that PrEP is highly effective when used and that consistent use requires that the medications be included in people's daily routine for example drinking during a favorite show when it starts airing or a daily activity. Support groups for PrEP users, including groups formed on social media are helpful for peer-to-peer sharing of experience and solutions. AGYW get motivated by hearing their peers narrate something they went through and they overcame it. Brief AGYW centered counselling that links daily medication use with a daily habit (such as waking up, going to sleep or a regular meal) is also helpful.

Special programs to facilitate adherence among young people and women may be needed. Health care workers also need to support AGYW by monitoring their kidney function and regularly screening for sexually transmitted infection. Monitoring adherence is a key element of effective PrEP delivery among AGYW. Daily non-adherent is not a problem for oral PrEP but what create a problem is extended periods of non-adherence. PrEP adherence and retention is challenging and this reduce the benefit of PrEP at individual level.

While emphasizing adherence health care workers need to address:

- Event based dosing

- Tendency of PrEP user stopping PrEP before seeking professional help and support
- Addressing side effects and how to manage them and when to seek professional help
- Nature of appointment and follow-up
- Enduring PrEP related stigma and stigma that emerge when using PrEP
- Flexible appointments scheduling
- Reminders, this can include sending short message to AGYW to remind them of their follow-up
- Developing a process to follow up defaulters
- Setting up teen PrEP clubs for AGYW to freely share their journey so that they can motivate others
- Doing outreach to solve the issues of AGYW not having transport to come to the facility
- Have a call-in number where AGYW can call in to talk to health care workers to freely express their issue regarding PrEP dose, side effects and any other issues that can may come up

5.4.6 Need for PrEP awareness campaigns

Some participants spoke about AGYW not adhering to PrEP for fear of stigmatization from the community, their peers, guardians and from health care workers. A need for PrEP campaign targeting those population and to make them aware of PrEP is crucial at reducing stigma against AGYW that are on PrEP.

Campaign should focus on school, universities and communities to be able to reach out of school youth, neighbors, parents and other relevant key stakeholders in order to reduce some of the PrEP related stigma that contribute to poor adherence. Campaign therefore should include information about PrEP that debunks myths about PrEP and clear communication about side effects.

5.4.7 Setting up of PrEP clubs

Health care workers can set up PrEP clubs for AGYW where they can recruit and identify peers who can come forward and share their experience of being on PrEP.

5.5 Chapter summary

The study set out to explore the experience of nurses on prescribing PrEP to AGYW. The study objectives were fulfilled by studying relevant literature about PrEP and nurses experience (refer to chapter 2) using an appropriate methodology (refer to chapter 3) and using a reliable and valid data correction instrument. Findings from the study in chapter 4 showed that Overall, a large number of health care workers were willing to prescribe PrEP to AGYW. They indicated that PrEP services availability is of high beneficial to AGYW since this age group is at substantial risk of contracting the HIV virus, and this will help avert new HIV infection. However, there were participants that indicated that provision of PrEP services to AGYW promote reckless behaviors which is unsafe sex for other STIs and biological outcomes.

The findings also showed that nurses in some departments lacks training on AGYW services that is youth friendly and youth focused. Based on these findings it was recommended that HCWs need more training on PrEP provision and identifying of on

risks clients. Health care workers also need to be trained on providing adolescent friendly centred care. All health care workers need to be sensitized to the need of the AGYW. There is a need for health care workers to give community health education to AGYW for them to develop a culture of voluntarily visiting the health facility and request PrEP when the need arises.

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Annexure A.

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: DEC OSH 0018 Date: 27/07/ 2022

This Ethical Clearance Certificate is issued by the University of Namibia Ethics Committee (REC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the ethics committee.

Title of Project: HEALTH CARE WORKERS PERCEPTION ON PRESCRIBING PrEP TO ADOLESCENT GIRLS AND YOUNG WOMEN AT PUBLIC HEALTH CENTERS IN WINDHOEK KHOMAS REGION

Principal researchers: SHIPENA KRISTINE

Staff Number/ Student number: 200833642

Remarks: Low Risk Approved with corrections

Centre for Research Services

Take note of the following:

1. Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
2. Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee
3. The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee
4. The ethics committee retains the right to:

i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,

ii) Request for an ethical compliance report at any point during the course of the research.

The ethics committee wishes you the best in your research.

Prof Hans J Amukugo (Oshakati Campus Chairperson Decentralized Ethics Committee)

Prof. Davis Mumbengegwi (Head, Multidisciplinary Research)

Annexure B.

REPUBLIC OF NAMIBIA

MINISTRY OF HEALTH AND SOCIAL SERVICES

Ministerial Building
Harvey Street
Private Bag 13198, Windhoek

OFFICE OF THE EXECUTIVE DIRECTOR

Tel: No: 061 -203 2507
Fax No: 061-222 558
Andreas.Shipanga@mhss.gov.na

Ref: 22/4/2/3
Enquiries: Mr. A. Shipanga

Date: 24 August 2022

Ms. Kristine Shipena
University of Namibia
Windhoek

Dear Ms. Shipena

Re: ***The experience of Health care workers on prescribing PrEP to adolescent girls and young woman at public health centers in Windhoek Khomas Region.***

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
   - 3.1 The data to be collected must only be used for academic purpose;
   - 3.2 No other data should be collected other than the data stated in the proposal;
   - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;
   - 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
   - 3.5 Preliminary findings to be submitted upon completion of the study;
   - 3.6 Final report to be submitted upon completion of the study;
   - 3.7 Separate permission should be sought from the Ministry for the publication of the findings.
4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely,

EXECUTIVE DIRECTOR
MINISTRY OF HEALTH AND SOCIAL SERVICES

BEN NANGOMBE
EXECUTIVE DIRECTOR

All official correspondence must be addressed to the Executive Director.

My NAMIBIA

Annexure C.

REPUBLIC OF NAMIBIA
MINISTRY OF HEALTH AND SOCIAL SERVICES

OFFICE OF THE REGIONAL DIRECTOR

Private Bag 13322
Windhoek
Namibia

Khomas Directorate
Florence Nightingale Street
Windhoek

Tel: (061) 203 5029
Fax: (061) 235997
International: (264 61 235997)

Enq: Mrs. M. Tonchi / Ms. T. Nyamupfukudza Ref: PF Date: 2 September 2022

STAFF MATTER: CONFIDENTIAL

MS. KRISTINE SHIPENA
P. O. BOX 1598
WINDHOEK

RE: THE ACADEMIC RESEARCH PROPOSAL, UNIVERSITY OF NAMIBIA, MASTERS IN PUBLIC HEALTH.

Dear Ms. Shipena

I have pleasure to inform you that on recommendation of the Executive Director permission has been granted for you to conduct a study on "The experience of Health care workers on prescribing PrEP to adolescent girls and young woman at public health centers in Windhoek Khomas Region" from 5 September 2022 until 18 September 2022.

The office wishes you success with your research.

Yours sincerely

MR. TOMAS UKOLA
DIRECTOR: KHOMAS REGION
(Ms. Kristine Shipena)

MINISTRY OF HEALTH AND SOCIAL SERVICES
PRIVATE BAG 13322 WINDHOEK
2022 -09- 05
HUMAN RESOURCE OFFICER
REPUBLIC OF NAMIBIA

Annexure D.

Research tool Part A Consent form and research instrument.

Informed Consent Form

Good Day Sir/Madam

My name is …… **(Interviewer's name).** I am conducting a study on HEALTH CARE WORKERS PERCEPTION ON PRESCRIBING PrEP TO ADOLESCENT GIRLS AND YOUNG WOMEN AT PUBLIC HEALTH CENTERS IN WINDHOEK KHOMAS REGION. The purpose of this study is to explore health care workers' perception about prescribing Pre exposure prophylaxis to adolescent girls and young woman at high risk of HIV in Windhoek.

The study findings are aimed at informing MOHSS and its relevant stakeholders about factors that are hindering the effective provision of PrEP to AGYW at high risk of HIV. This is intended to contribute to the understanding of issues surrounding PrEP as a biomedical intervention and leading to the success on the scale up and implementation of PrEP to AGYW that are at high risk.

All information you give during the interview will be labelled with a number code only and not your name. Your name will not be used in any written reports or articles that result from this research study.

Your acceptance to partake in this study is completely voluntary therefore you are free to decline partaking in the study at any time and this will not involve any penalties. If you feel some questions are too personal in the interview, you are free to not give an answer to them. If you have any further questions about this study, please contact the researcher Kristine Shipena by Cell phone.

Cell phone: +264 81 3566331

Respondent name (print)……

Respondent signature ……. Or thumb print…….

Witness Signature (if applicable)

…….

Date…….....

.....

Interviewer

signature……Date…….....

Interview guide

Date: ----------

Interviewer: ----------

Venue: ----------

Language: ----------

Time Began: ----------

Time Ended: ----------

Please introduce yourself

1. What is your experience regarding prescribing PrEP to adolescent girls and young woman?
2. What are your opinions about making PrEP available to adolescent girls and young women?
3. Would you feel comfortable prescribing PrEP? Why or why not? [Probe: What about to adolescent girls and young women?
4. How can health care workers support adolescent girls and young woman's use of PrEP?

5. How well do you think this health facility is currently doing in providing PrEP and other sexual/reproductive health services to adolescents' girls and young woman?

Is there anything you would like to add or any question?

Researcher thanks the participant and closes down the interview