

EVALUATING THE AWARENESS AND UPTAKE OF PRE- EXPOSURE PROPHYLAXIS (PrEP) AMONG THE YOUTHS IN LILONGWE URBAN- A CASE OF AREA 25 HEALTH CENTRE

Bwalya Munjili¹, Wanda Hankombo¹, Lindani Katendema¹, Isabel Nyahoda¹

¹School of Nursing and Midwifery Sciences, Eden University, Zambia

*Corresponding Author: Ayman Zwaghi | Received: 03.10.2024 | Accepted: 09.11.2024 | Published: 18.11.2024

Abstract: The study was conducted in the city of Lilongwe in Malawi, specifically, in Area 25. The catchment area was the areas surrounding Area 25 Health Centre. The main objective of the study was to evaluate the awareness and uptake of pre-exposure prophylaxis (PrEP) among the youths in Lilongwe Urban: a case of Area 25 Health Centre. A total of 100 interviews were conducted with the youths in the area using a questionnaire. Data was analyzed using SPSS version 21. It was established that just 44% of the respondents are aware of PrEP. Based on the different perception questions that were asked, it was noted that some of the perceptions that the youths have over PrEP are actually not true; for example, taking of PrEP within 24 hours as the only period within which PrEP can be effective. However, most of the perceptions the youth have on PrEP are positive and encouraging. It has been found that 31% of the youths that are aware of PrEP (14% of the total sample) has ever used PrEP. Of these that have ever used PrEP, 42.9% of them (6% of the total sample) are still using PrEP. Lack of awareness, lack of access, inconvenient outlets and negative perceptions are some of the barriers to PrEP usage. Wide implementation of the PrEP communication strategy and making the PrEP easily accessible as well as ensuring privacy in the PrEP collection points will increase the uptake by the youths.

Keywords: Pre-exposure prophylaxis (PrEP), Youth, Awareness, Uptake, HIV prevention, Lilongwe, Malawi, Area 25 Health Centre, Perceptions, Barriers, Access and Accessibility, PrEP communication strategy, Health behavior, HIV awareness, Privacy in healthcare.

Citation: Bwalya Munjili *et al.* EVALUATING THE AWARENESS AND UPTAKE OF PRE- EXPOSURE PROPHYLAXIS (PrEP) AMONG THE YOUTHS IN LILONGWE URBAN- A CASE OF AREA 25 HEALTH CENTRE. Grn Int J Apl Med Sci, 2024 Nov-Dec 2(6): 249-268.

INTRODUCTION

This chapter introduces the study, and is covering the background of the study, the problem statement, study objectives and significance.

HIV/AIDS PREVALENCE

HIV remains a major global public health issue, having claimed 40.4 million [32.9– 51.3 million] lives so far with ongoing transmission in all countries globally; with some countries reporting increasing trends in new infections when previously on the decline [1].

In 2020, of the estimated 38.0 million people living with HIV worldwide, an estimated 2.78 million were children and adolescents aged 0–19 years, in the same year, 310,000 children and youths were newly infected with HIV and 120,000 children and adolescents died of AIDS-related causes [2].

Geographically, Eastern and Southern Africa had the highest number of children and youths living with HIV [2].

Region	Estimate	Lower	Upper	
Eastern and Southern Africa	1.85 million	1.24 million	2.33 million	
West and Central Africa	600,000	440,000	800,000	
South Asia	120,000	71,000	170,000	
East Asia and the Pacific	93,000	66,000	130,000	
Latin America and the Caribbean	62,000	42,000	90,000	
Middle East and North Africa	5,400	4,300	8,600	
Eastern Europe and Central Asia	-	-	-	
Western Europe	-	-	-	
North America	-	-	-	
Global	2.8 million	1.9 million	3.6 million	

Figure 1: Number of children and youths
Source: UNAIDS 2021 estimates

Despite advances in scientific understanding of HIV and its prevention and treatment, as well as years of significant effort by the global health community and leading government and civil society organizations, too many people with HIV or at risk for HIV still do not have access to prevention, care, and treatment, and there is still no cure [3].

The global response to HIV and AIDS is at a critical juncture, and nowhere is this more evident than in the region of Sub-Saharan Africa. Of the global total of 34 million women and men living with HIV today, the vast majority, an estimated 23.5 million or 69 percent live in Sub-Saharan Africa [4].

In sub-Saharan Africa, girls and young women accounted for more than 77% of new infections among young people aged 15-24 years in 2022 [5]. This could be attributed to the multiple co-occurring transitions during adolescence such as increased autonomy, decreased adult supervision, identity formation, peer influence, and social transition, potentially leading to early sexual debut and health risk behaviors that may lead to HIV infection [6].

PRE-EXPOSURE PROPHYLAXIS (PrEP)

There is no cure for HIV infection, however, with access to effective HIV prevention, diagnosis, treatment and care, including for opportunistic infections, HIV infection has become a manageable chronic health condition, enabling people living with HIV to lead long and healthy lives [1]. One such measure is the development of Pre-exposure prophylaxis (PrEP).

Pre-exposure prophylaxis (PrEP) is a way of preventing HIV, whereby by taking a daily pill, which contains two medicines, HIV can be stopped before it causes an

infection [7]. PrEP is most commonly available in pill form, but a long-acting injection and a vaginal ring are also newly available in some countries, and evidence shows that, when taken consistently and correctly, oral PrEP reduces the chances of HIV infection to near-zero [26]. PrEP is highly effective for preventing HIV when taken as prescribed [8]. The World Health Organization recommends Pre-Exposure Prophylaxis (PrEP) for all populations at substantial risk of HIV infection [9]. Pre-exposure prophylaxis (PrEP) is a highly effective biomedical prevention strategy that remarkably reduces HIV transmission risk.

The World Health Organization (2012) approved PrEP as an additional biomedical prevention strategy and released guidelines for PrEP use among particular groups of [10].

People, i.e., sero-discordant couples and men who have sex with men (MSM) (World Health Organization, 2012). More recently, the WHO has broadened the recommendation to include all groups at substantial risk of HIV infection [1].

Antiretroviral pre-exposure prophylaxis (PrEP) to prevent HIV transmission was first approved by the US Food and Drug Administration in 2012 [7]. It was first introduced in South Africa in 2016

Despite correlations of decreases in new HIV infections being greatest where PrEP has been deployed, the uptake of PrEP is lagging, particularly among populations with disproportionate HIV burden (Mayer, Agwu, & Malebranche, 2020). Access to PrEP is still highly concentrated in a fairly small number of countries and, even within countries with widespread PrEP access, inequalities have emerged [11].

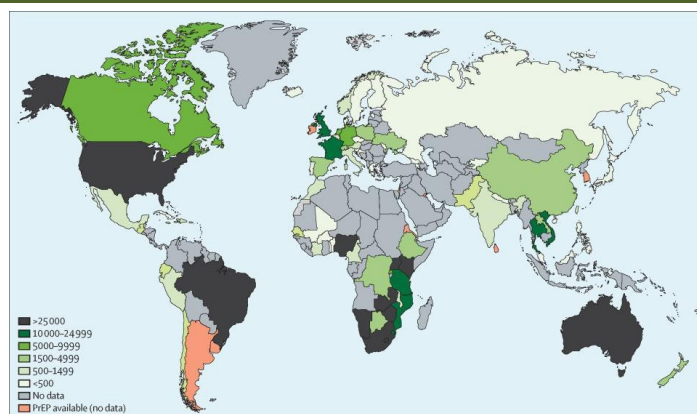


Figure 2: PrEP initiations by country, 2020

Source: AVAC Global PrEP Tracker, 4th quarter 2020. PrEP=pre-exposure prophylaxis.

The pace of PrEP initiations in Africa has been increasing, and nine of the ten countries with the highest PrEP use per capita are now located there [27]; however, the rate of uptake is still too slow to expect a substantial population impact on the HIV epidemic.

Pre-exposure prophylaxis (PrEP) was approved by the Malawi Ministry of Health in October 2020. In March 2021, PrEP was initiated in the Determined, Resilient, Empowered, AIDS-free, Mentored and Safe (DREAMS) clubs by the EMPOWER project [12]. (PeEP Watch, USAID, PEPFAR, and the National AIDS Commission of Malawi formulated the National Communication and Advocacy Strategy for PrEP to improve the prevention response to HIV in-country, particularly for the most vulnerable populations 2022). Malawi's PrEP Communication Strategy outlines how to increase demand for PrEP among groups most at risk of HIV [13]. In Malawi, the Ministry of Health defines these groups as adolescent girls and young women (ages 10 to 24), sero-discordant couples (when one person has HIV and the other does not), female sex workers and men who have sex with men.

The Ministry of Health in Malawi planned to start implementation of the long-acting injectable Pre-exposure Prophylaxis (PrEP) in March, 2024 [14]. The

announcement was made through the Department of HIV, AIDS and Viral Hepatitis in the ministry on Wednesday, 28th February 2024. An implementation science for the long-acting injectable PrEP was launched in Lilongwe on 1st September 2023, adding the newest intervention to a number of Malawi's HIV combination prevention initiatives.

Public health facilities, Christian Health Association of Malawi (CHAM), Drop-in Centres, Private and NGO facilities were earmarked to deliver PrEP to allow access to marginalized populations, and additional sites would be set as demand increases and capacity is strengthened [15].

Statement of the Problem

In Malawi, approximately 140,000 Malawian youths aged 15-24 were living with HIV in 2021, constituting 10% of all youths living with HIV in sub-Saharan Africa [5]. According to records from MPC and Lighthouse Trust, from 2019 to 2021, approximately 48,306 youths in Lilongwe, were tested for HIV of which 1,324 were found positive, representing 2.74% [16]. Contributing factors to these sentiments include early sexual debut, unprotected sexual affairs with multiple partners, gender-based violence, and limited access to HIV prevention and treatment services.

HIV Testing data for youths													
Year	Indicator	MPC						Lighthouse					
		10 - 14 yrs		15-19		20-24		10 - 14 yrs		15-19		20-24	
		M	F	M	F	M	F	M	F	M	F	M	F
2019	Tested	296	387	1306	2646	4870	6422	82	126	102	150	305	313
	Positive	9	14	19	72	84	240	3	0	4	7	6	25
	Yield	3%	4%	1%	3%	2%	4%	4%	0%	4%	5%	2%	8%
2020	Tested	106	135	724	2652	3432	6038	25	31	44	60	206	185
	Positive	9	5	8	50	59	175	0	2	1	5	4	15
	Yield	8%	4%	1%	2%	2%	3%	0%	6%	2%	8%	2%	8%
2021	Tested	30	62	417	910	2675	3019	9	5	35	41	202	190
	Positive	4	5	7	25	44	172	4	0	1	2	7	12
	Yield	13%	8%	2%	3%	2%	6%	44%	0%	3%	5%	3%	6%
2022	Tested	63	85	533	1348	3238	4016	8	16	67	55	338	301
	Positive	2	2	6	38	43	117	0	2	2	4	5	12
	Yield	3%	2%	1%	3%	1%	3%	0%	13%	3%	7%	1%	4%
Total	Tested	495	669	2980	7556	14215	19495	124	178	248	306	1051	989
	Positive	24	26	40	185	230	704	7	4	8	18	22	64

Table 1: HIV/AIDS Testing Data for Youths in Lilongwe (source: Lighthouse)



Despite the proven effectiveness of PrEP in preventing HIV contraction by about 99%, these positive cases leave questions as to whether these youths are utilizing PrEP to protect themselves against contracting the virus. Understanding PrEP awareness and interest is crucial for designing PrEP programs; however, data are lacking in sub-Saharan Africa [9]. At the same time, assessing the potential barriers to the access of PrEP by the youths needs to be carried out.

Pre-exposure prophylaxis (PrEP), a highly effective method reducing HIV risk by up to 99%, offers a potential solution. However, its uptake and adherence among the youths are strikingly low. WHO's 2022 report revealed that only 15% of eligible youths were using PrEP, highlighting substantial barriers [1]. These barriers encompass insufficient awareness, negative attitudes, stigma, discrimination, limited-service access, and financial constraints.

A study to assess barriers to PrEP uptake by girls and young women (AGYW) in Machinga was conducted by Kumwenda, *et al*. [17] and several barriers were cited [17]. Machinga district is a district whose cultural values differ from those of Lilongwe. It is not known as to whether these barriers, in the absence of systematically collected data in Lilongwe, apply to the site of the study (Lilongwe in this case).

Despite this, the levels of PrEP acceptability and uptake among AYP in sub-Saharan Africa remain unclear, as research on PrEP has focused on high-risk adult populations [18]. Little has been done to assess the PrEP use among the youths in the city of Lilongwe. It is not clear as to which of the specific variables affect the uptake of the PrEP among these youths, hence a need to understand the awareness of PrEP as a first step into establishing this low uptake problem.

Objectives

The main objective of the study was to evaluate the awareness and uptake of pre-exposure prophylaxis (PrEP) among the youths in Lilongwe Urban: a case of Area 25 Health Centre.

The primary objectives of this study are as follows:

1. To assess the awareness levels of PrEP among the youths
2. To establish the perceptions of PrEP among the youths
3. To assess the uptake of PrEP among the youths
4. To identify the barriers to PrEP uptake among the youths.

Significance

Many factors likely contribute to an individual's access to and decision to use oral PrEP, and to programmatic coverage of oral PrEP delivery. By establishing these factors, the study will help in policy formulation by the stakeholders to ensure that these factors which happen to be barriers to the universal access and uptake of PrEP

by the adolescents are addressed. These policy adjustments will not only benefit the youths in the study area, but will be applied across the country, and will act as a baseline on which the different stakeholders may wish to carry out further studies, or as a basis for establishing program achievements with newly applied actions.

CONCLUSION

This chapter has laid the background of the study, and has covered the prevalence of HIV and statistics on the study topic, the problem statement, the objectives, and how the study will contribute to knowledge. The next chapter covers the literature review.

LITERATURE REVIEW

A literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing the researcher to identify relevant theories, methods, and gaps in the existing research that can be applied later to the paper, thesis, or dissertation topic [19].

Malawi has a youthful population – the 2018 census revealed that 51% of the population is under 18. According to Integrated Household Survey (HIS) 5, 64.7% of Malawi's population is 24 years or less and those aged 65 and over constitute only 4.2% of the population.

HIV/AIDS AWARENESS AND PREVENTION

Integrated knowledge regarding pre-exposure prophylaxis (PrEP) awareness and willingness to use PrEP can be useful for HIV prevention in high incidence groups.

Youths aged 11-24 years remain a highly vulnerable population to HIV/AIDS, accounting for 25% of new HIV infections globally in 2020 [1]. This is concerning, given that the youths make up only 16% of the global population. There are a number of factors that contribute to the vulnerability of the youths to HIV infection. These include:

Biological factors: Their immune systems are still developing, making them more susceptible to HIV infection.

Behavioral factors: They are more likely to engage in risky sexual behaviors, such as having unprotected sex and having multiple sexual partners.

Social factors: They may face stigma and discrimination if they are diagnosed with HIV, which can prevent them from seeking testing and treatment.

THEORETICAL REVIEW

The theoretical literature review help establish what theories already exist, the relationships between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested [20].



There are a number of theories connected to PrEP. This section will try to look at some of these theories.

The theory of planned behavior (TPB)

According to the theory of planned behavior [21], behaviors are influenced by intentions, which are determined by three factors: attitudes, subjective norms, and perceived behavioral control.

It is also possible for external factors to directly force or prevent behaviors, regardless of the intention, depending on the degree to which a behavior is actually controlled by the individual, and the degree to which perceived behavioral control is an accurate measure of actual behavioral control.

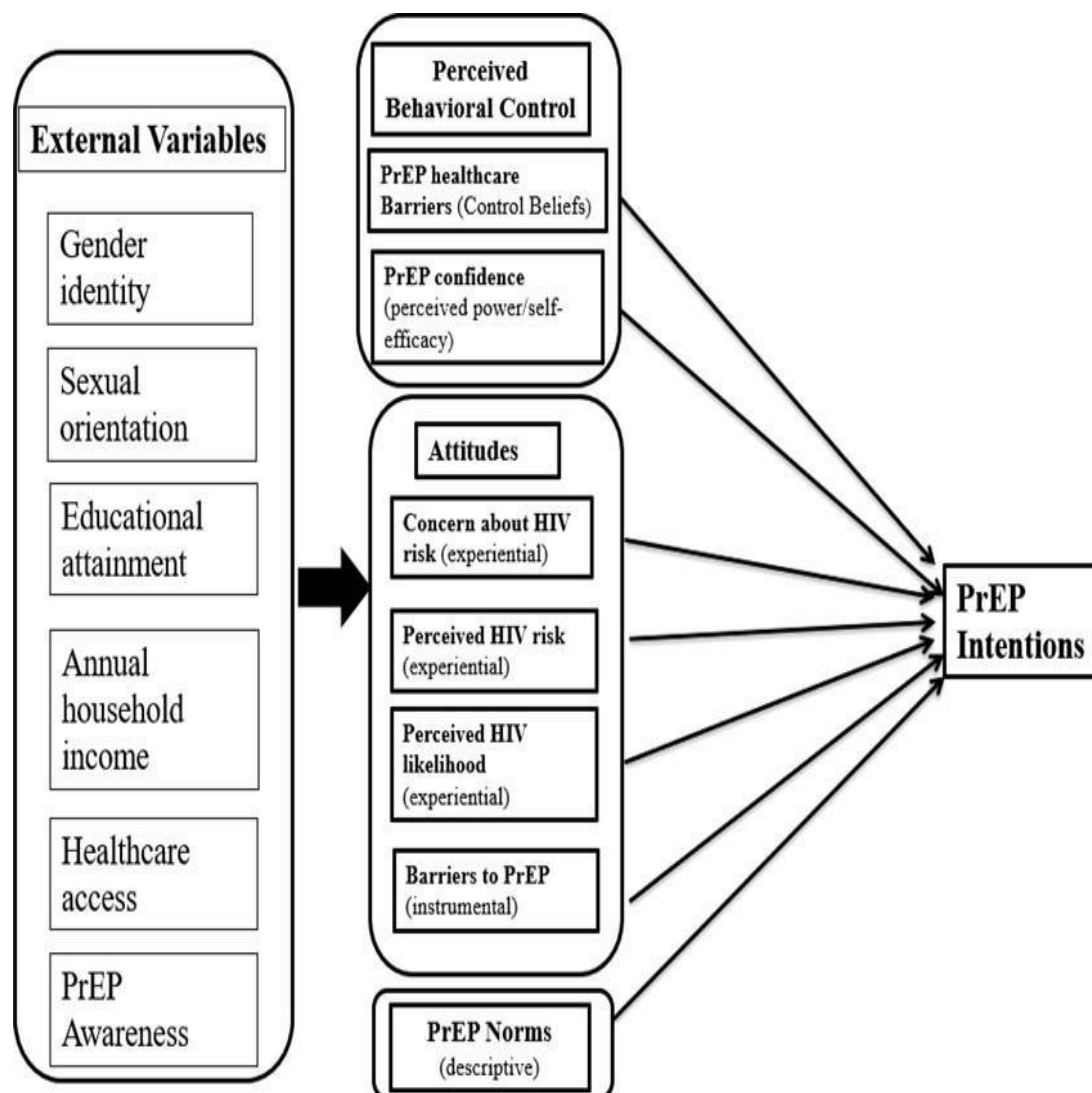
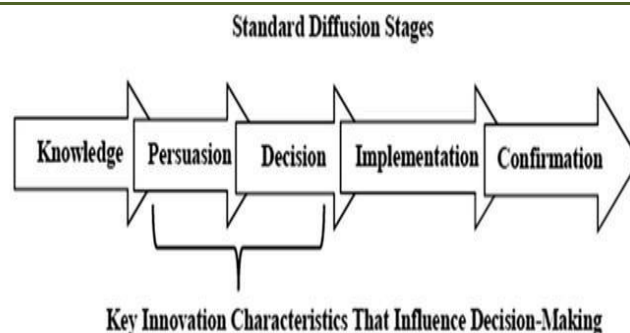


Figure 3: Theory of planned behaviour

Diffusion of Innovation Theory

The diffusion of innovations theory was developed by E.M. Rogers, a communication theorist at the University of New Mexico, in 1962 [2]. The theory explains the passage of a new idea through stages of adoption by different people who participate in or begin using the new idea.

According to Halton [22], the diffusion of innovations theory is a hypothesis outlining how new technological and other advancements spread throughout societies and cultures, from introduction to widespread adoption. The diffusion of innovations theory seeks to explain how and why new ideas and practices are adopted, including why the adoption of new ideas can be spread out over long periods.



Characteristic	Definition	PrEP Examples
Compatibility	Consistency with values, experiences & needs	<u>High compatibility</u> : PrEP use may align with perceived HIV risk for someone with multiple and/or casual sexual partners <u>Low compatibility</u> : someone who doesn't have sex often may see their HIV risk as too low for daily PrEP use
Complexity	Difficulty in understanding & using innovation	<u>High complexity</u> : remembering to take a PrEP pill every day may be perceived as too difficult <u>Low complexity</u> : it may be easy to add PrEP to daily medication or supplement routines
Relative advantage	Innovation is perceived as better than alternative(s)	<u>High advantage</u> : it may be sexually satisfying to prevent HIV without having to use condoms <u>Low advantage</u> : PrEP has more side effects than condoms
Trialability	Innovation can be tried on a limited basis	PrEP trialability has been limited under standard daily use protocols; recent shifts to event-driven/2-1-1 PrEP ^a may allow for trial use
Observability	Results of innovation are visible to others	It is difficult to observe the outcome of PrEP (i.e., absence of HIV), but it may be inferred from HIV testing results

^aEvent-driven/2-1-1 PrEP, which involves taking a short-course PrEP regimen before and after sex (17), was not available in the U.S. in 2016, the point at which our data were collected.

Figure 4: Diffusion of innovations theory applied to HIV pre-exposure prophylaxis
Source: ResearchGate

EMPIRICAL REVIEW

Data from the 2020 Malawi Population-based HIV Impact Assessment (MPHIA) was analysed to assess PrEP awareness and factors associated with PrEP interest in Malawi [9]. The analysis included 13,995 HIV-negative sexually active participants; median age was 29 years old. Overall, 15.0%, 95% confidence interval (CI): 14.2–15.9% of participants were aware of PrEP. More males (adjusted odds ratio (AOR): 1.3, 95% CI: 1.2–1.5), those with secondary (AOR: 1.5, 95% CI: 1.2–2.0) or post-secondary (AOR: 3.4, 95% CI: 2.4–4.9) education and the wealthiest (AOR: 1.6, 95% CI: 1.2–2.0) were aware of PrEP than female, those without education and least wealthy participants, respectively. Overall, 73.0% (95% CI: 71.8–74.1%) of participants were willing to use PrEP. Being male (AOR: 1.2; 95% CI: 1.1–1.3) and having more than one sexual partner (AOR: 1.7 95% CI: 1.4–1.9), were associated higher willingness to use PrEP.

Informed by the integrative model of behavioral prediction, Dali & Calabrese examined the socio-

behavioral factors associated with PrEP non-adherence [23]. The study conducted a cross-sectional survey of 210 gay male daily PrEP users living in California and New York. The results showed more than two-thirds of the sample indicated that they had skipped taking PrEP within the last 30 days, averaging around four to five missed doses. General attitudes toward desirable and undesirable outcomes, perceived behavioral control, and social-level barriers were associated with daily PrEP uptake non-adherence. The findings highlight providers' role in PrEP adherence and the importance of habit-forming, which can be enhanced by cost-effective strategies and technological innovations.

A study was conducted aimed at assessing the awareness and uptake of pre-exposure prophylaxis (PrEP) among individuals residing in rural areas of South Africa, considering the limited research in this specific context where HIV prevalence rates tend to be higher. Employing a quantitative research approach, including online surveys, data was gathered on



participants' knowledge of PrEP, its utilization, and barriers to accessing PrEP services in rural areas.

The study was conducted in Ga-Makushane village, Phalaborwa, South Africa, with a sample size of 30 participants selected using probability sampling. Data collection occurred through online surveys and analysis was performed using Microsoft Excel. Survey results revealed that 33.3% (n=10) of participants reported prior awareness of PrEP, while the majority, 66.7% (n=20), had not heard of PrEP before. These findings highlight a significant lack of PrEP awareness among the participants.

Consequently, the low utilization of PrEP was not surprising. Addressing this issue requires a comprehensive approach from all stakeholders involved in PrEP provision and promotion, involving targeted awareness campaigns tailored for high-risk populations who are willing to use PrEP. It is crucial to reframe

PrEP availability and access as a positive and responsible option to help individuals remain HIV-negative.

RESEARCH GAPS

The studies cited above were conducted in different set-ups to that of the target study area. The dynamics associated with the different independent variables that affect PrEP awareness and usage cannot be in the cited studies cannot be similar to Area 25. Inferring these findings to the study area may result into wrong strategies being implemented since, as said earlier on, the dynamics may be different.

CONCEPTUAL FRAMEWORK

Based on the literature review above, and the variables identified, the figure below shows the conceptual framework, indicating which independent variables will affect the dependent variable (PrEP uptake).

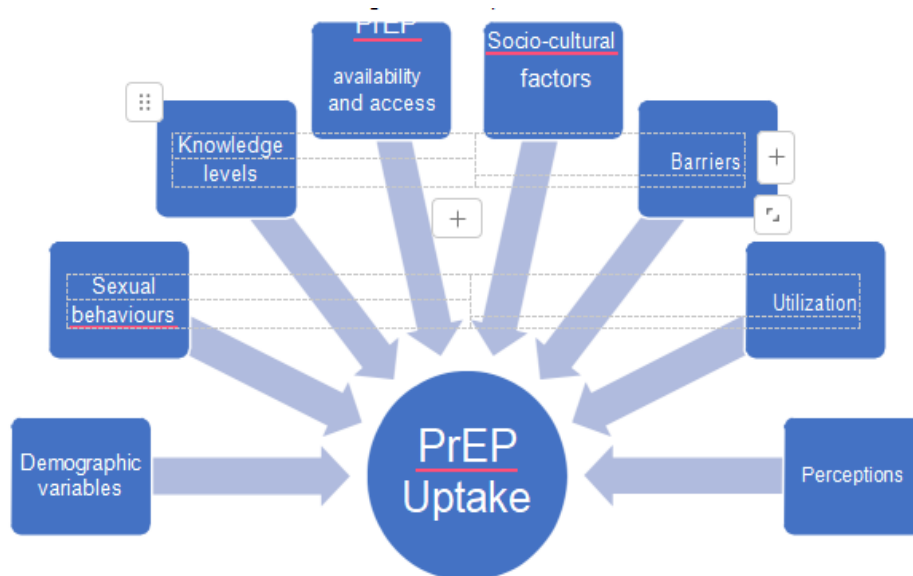


Figure 5: Conceptual framework
Source: Researcher's own compilation

CHAPTER CONCLUSION

The chapter has tackled the different theories that are linked to HIV/AIDS and PrEP.

These acted as inputs into the variables that were assessed during the study.

The next chapter looks at the methodological approach that was used to ensure a systematic study.

METHODOLOGY

INTRODUCTION

Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability.

RESEARCH APPROACH

The research approach adopted for investigating HIV/AIDS awareness and prevention among adolescents visiting Lilongwe, Area 25 Health Centre is the quantitative method which will provide a comprehensive understanding of the topic. The complexity of youths' behavior, coupled with the socio-cultural context of Lilongwe Urban, necessitates an approach that moves deep into individual perceptions, while also quantifying patterns and knowledge levels.

The quantitative dimension of the research employed structured surveys and questionnaires to quantify the extent of HIV/AIDS awareness and prevention knowledge among the youths. A standardized questionnaire, adapted from validated instruments used

in similar studies, measure participants' awareness levels, sources of information, and their attitudes toward preventive measures like PREP. The survey encompassed a representative sample of youths from various demographic strata, ensuring a diverse and inclusive dataset.

STUDY AREA

The study was conducted in Lilongwe Urban, with a specific focus on Area 25 Health Centre and the surrounding areas. Lilongwe, being the capital city of Malawi, stands as a centre-focus of the nation's diverse demographic landscape. Area 25 Health Centre, within this urban expanse, was strategically chosen due to its significant adolescent population and its representation of the socio-economic and cultural diversity prevalent in Lilongwe. By looking into this specific community, the research aimed to unravel the nuanced intricacies of HIV/AIDS awareness and prevention among youths in an urban setting.

TARGET POPULATION

This study targeted youths aged 15 to 24 years old who visit Area 25 Health Centre and those within surrounding areas in Area 25 in Lilongwe, Malawi. This age group is considered to be at high risk of HIV infection due to a number of factors, including:

Increased risk-taking behaviors

Limited access to HIV prevention information and services
Stigma and discrimination associated with HIV/AIDS.

The study also considered the following factors when selecting participants:

Gender
Sexual orientation
Socioeconomic status
Educational level.

By considering these factors, the study was able to ensure that the findings are representative of the diverse youth population in Lilongwe, Area 25 Health Centre.

INCLUSION AND EXCLUSION CRITERIA

The following inclusion and exclusion criteria were used.

Inclusion Criteria

Youths aged 15-24
Youths who will consent to participate in this study.

Exclusion Criteria

Youths who refuse to consent to participate in this study.
Youths less than 15 years of age.
Youths above 24 years of age.

SAMPLING

Sampling Strategy

Simple random sampling within the target group was conducted. This ensured that every member within the sampling frame stood a chance of being selected.

Sample Sizes

The sampling formula below was used.

$$N = \frac{(Z^2) P (1-P)}{D^2}$$

Where:

N= Sample size

P= Estimated prevalence or percentage of the factor under study (0.07)

Z= 1.96 reliability coefficient for the normal distribution to the significance level of 0.05

D= 0.05 degrees of precision at 95% level of confidence.

$$N = \frac{1.96^2 \cdot 0.07 (1-0.07)}{0.05^2}$$

$$N=100$$

Therefore 100 interviews were conducted.

DATA ANALYSIS PLAN

The data analysis plan for this research was aimed at processing the quantitative data to derive meaningful insights into PrEP awareness and prevention among adolescents in Lilongwe, Area 25 Health Centre. The analysis made use of quantitative patterns, providing a comprehensive understanding of youths' perspectives and behaviors regarding HIV/AIDS and PrEP.

Descriptive statistics was run to summarize quantitative data, including means, frequencies, and percentages. This provided an overview of participants' demographics, awareness levels, and attitudes toward PrEP.

ETHICAL CONSIDERATIONS

This research proposal was submitted to the College of Medicine Research Committee (COMREC) to obtain ethical clearance, and the clearance certificate has been attached. Ethical considerations are paramount when conducting research involving sensitive topics like HIV/AIDS awareness and prevention, especially among adolescents. Ensuring the well-being, dignity, and rights of participants is essential to maintain the integrity and credibility of the research findings. This section outlines the ethical principles and considerations obtained from the Science and Technology Act (SciTechAct, 2014-12-31)

RESULTS

INTRODUCTION

This chapter consists of the findings from the data that was collected from the target group. It shows the descriptive as well as cross-tabulations of different independent variables over the dependent variable.

DEMOGRAPHIC VARIABLES

This section shows the demographic variables of the respondents that took part in the study.



According to table 1 below, the sample was split 50-50 between males and females.

The mean age of the respondents was 19.05. 30% of the respondents were aged between 22 and 24 years, 23% between 19 and 21 years, 47% between 15 and 18 years.

Five (5) of the respondents (representing 6%) are married, with the majority (94% being single).

50% of the youths have attained tertiary education, while 46% have attained secondary education, with the balance, 4%, being at primary school level.

39% of the respondents are still in school, while 26% are in paid employment.

Table 2: Demographic variables

Sex of respondent				
		Frequency	Percent	Valid Percent
Valid	Female	50	50.0	50.0
d	Male	50	50.0	50.0
	Total	100	100.0	100.0
Age of respondent				
		Frequency	Percent	Valid Percent
Valid	15-18	47	47.0	47.0
d	19-21	23	23.0	23.0
	22-24	30	30.0	30.0
	Total	100	100.0	100.0
Marital status				
		Frequency	Percent	Valid Percent
Valid	Married	6	6.0	6.0
d	Never married	94	94.0	94.0
	Total	100	100.0	100.0
Educational qualification				
		Frequency	Percent	Valid Percent
Valid	Primary	4	4.0	4.0
d	Secondary	46	46.0	46.0
	Tertiary	50	50.0	50.0
	Total	100	100.0	100.0
Main occupation				
		Frequency	Percent	Valid Percent
Valid	Paid employment	26	26.0	26.0
d	School leaver	17	17.0	17.0
	Self employed	12	12.0	12.0
	Student	39	39.0	39.0
	Unemployed	6	6.0	6.0
	Total	100	100.0	100.0

SEXUAL LIFE OF THE YOUTHS

An attempt was made to establish the sexual life of these youths. It looked at the number of youths in sexual relationships, as well as cases of multiple relationships.

Sexual Relationships

48% of the respondents were said to be in sexual relationships, as can be seen in the figure below.

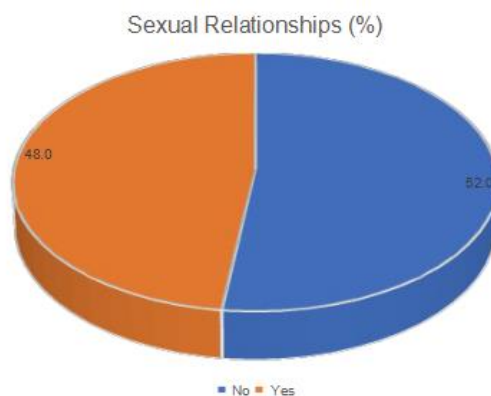


Figure 6: Sexual relationships

Number of Sexual Partners

4.2% of the respondents that have sexual relationships said they have three partners, while 8.3% refused to

answer this question. 66.7% of them have one partner. Figure 8 below has the details.

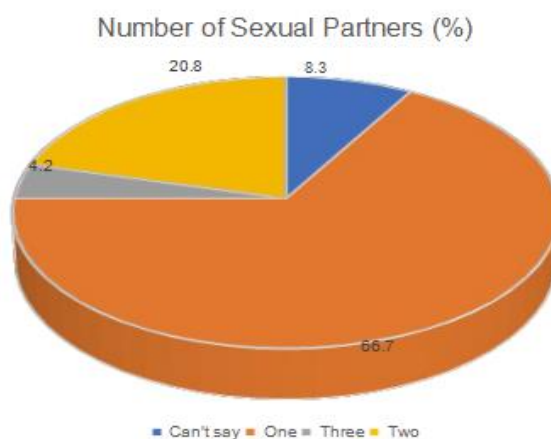


Figure 7: Number of sexual partners

Condom Usage

Of these respondents in sexual relationships, 20.8% do not use condoms, 33.3% use the condoms in some cases, while 45.8% always use condoms.

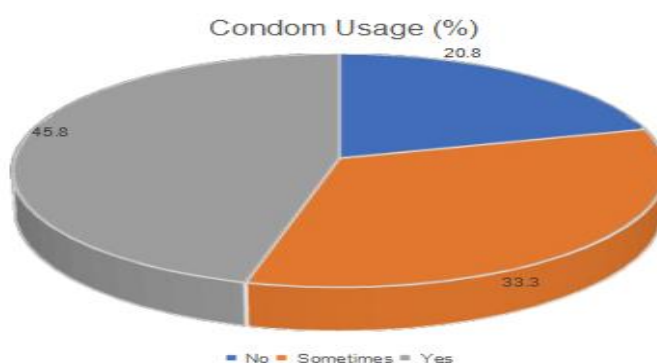


Figure 8: Condom usage

As per the table below, 4.2% of the youths that have three sexual relationships use condoms 'sometimes'. Those that don't use condoms have one sexual

relationship. Another 4.2% that don't use condoms have two partners, while 8.3% use the condoms in some instances.

Table 3: Condom usage Number of sexual partners Crosstabulation

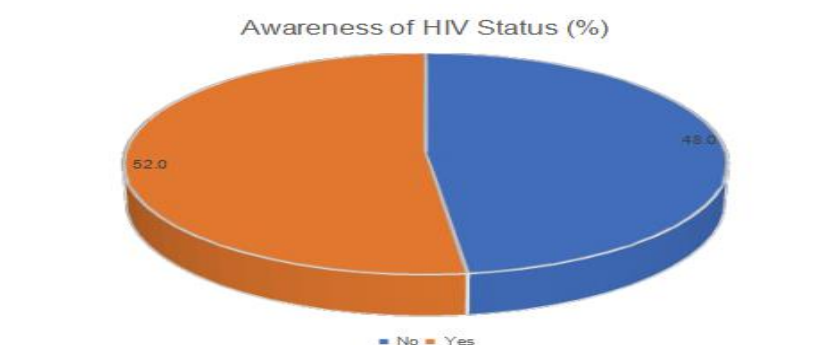
% of Total		Number of sexual partners				Total
		Can't say	One	Three	Two	
Condom usage	No		16.7%		4.2%	20.8%
	Sometimes	4.2%	16.7%	4.2%	8.3%	33.3%
	Yes	4.2%	33.3%		8.3%	45.8%
Total		8.3%	66.7%	4.2%	20.8%	100.0%

HIV STATUS AND PrEP AWARENESS

The youths' awareness of their HIV status as well as awareness of PrEP was established.

Awareness of HIV Status

52% of the youths are aware of their HIV status. However, the study did not attempt to know the statuses since it was outside the scope of this study.

**Figure 9: Awareness of HIV status**

It was found that 16.7% of the youths that do not use condoms are not aware of their HIV status. 35.4% of those that always use condoms are aware of their HIV

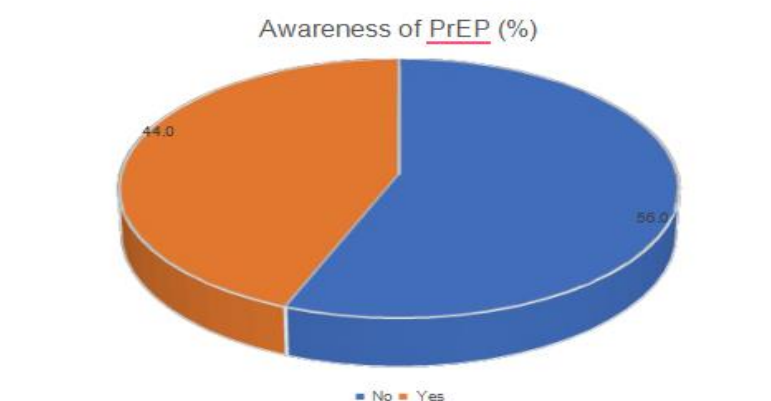
status. 29.2% of those that sometimes use condoms are not aware of their HIV status.

Table 4: Condom usage awareness of HIV status crosstabulation

% of Total		Awareness of HIV status		Total
		No	Yes	
Condom usage	No	16.7%	4.2%	20.8%
	Sometimes	29.2%	4.2%	33.3%
	Yes	10.4%	35.4%	45.8%
Total		56.3%	43.8%	100.0%

Awareness of PrEP

44% of the respondents are aware of PrEP, as can be seen in the figure below.

**Figure 10: Awareness of PrEP**

16.7% of the respondents that do not use condoms are not aware of PrEP.

Table 5: Awareness of PrEP condom usage crosstabulation

% of Total		Condom usage			Total
		No	Sometimes	Yes	
Awareness of PrEP	No	16.7%	18.8%	16.7%	52.1%
	Yes	4.2%	14.6%	29.2%	47.9%
Total		20.8%	33.3%	45.8%	100.0%

On the other hand, 25% of the respondents that are into sexual relationships are not aware of PrEP.

Table 6: Awareness of PrEP sexual relationship crosstabulation

% of Total		Sexual relationships		Total
		No	Yes	
Awareness of PrEP	No	31.0%	25.0%	56.0%
	Yes	21.0%	23.0%	44.0%
Total		52.0%	48.0%	100.0%

Source of PrEP Information

As can be seen in the figure below, social media was the type of media through which most respondents that are aware of PrEP first heard about the product.

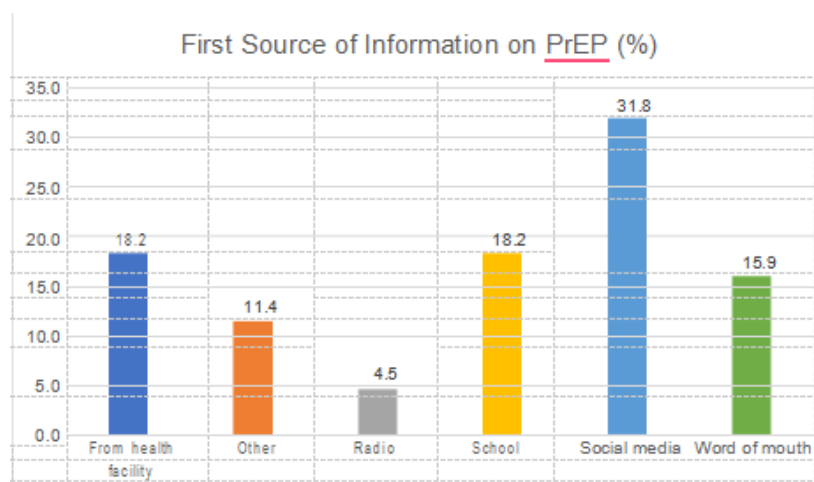


Figure 11: Source of information on PrEP

PrEP USAGE Ever Used PrEP

31% of the respondents that are aware of PrEP have at one point in time used it.

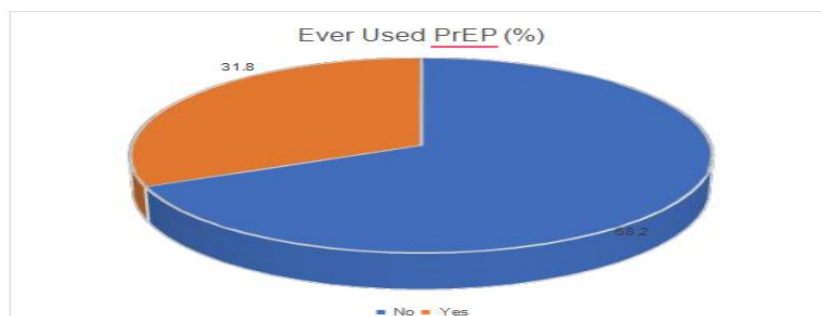


Figure 12: Ever used PrEP

Of the respondents that have never used PrEP, all those that do not use condoms were found not to be aware of

PrEP, as can be seen in the table below.

% of Total		Condom usage			Total
		No	Sometimes	Yes	
Ever used PrEP	No	8.7%	17.4%	34.8%	60.9%
	Yes		13.0%	26.1%	39.1%
Total		8.7%	30.4%	60.9%	100.0%

Table 7: Ever used PrEP Condom usage crosstabulation

Current PrEP Usage

Of the 42.9% that have ever used PrEP, 42.9% are still using it, while 57.1% are no longer using it.

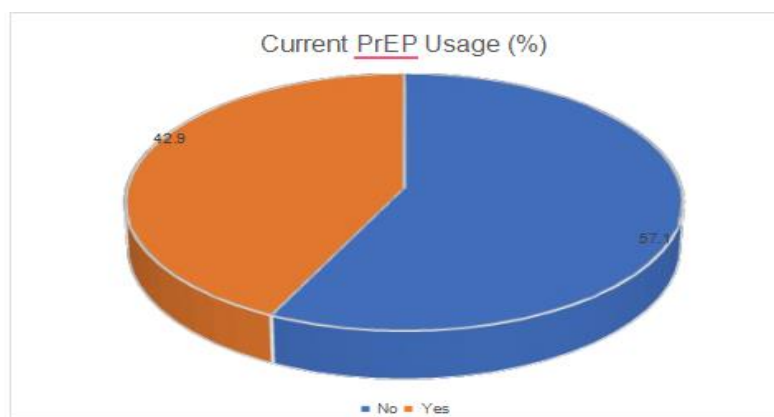


Figure 13: Current PrEP usage

It was worrisome to note that those that 11.1% and 22.2% of those that stopped using PrEP have three or

two sexual partners respectively, as can be seen in the table below.

Table 8: Current PrEP usage number of sexual partners crosstabulation

% of Total		Number of sexual partners			Total
		One	Three	Two	
Current PrEP usage	No		11.1%	22.2%	33.3%
	Yes	66.7%			66.7%
Total		66.7%	11.1%	22.2%	100.0%

Reasons for Stopping PrEP Usage

62.5% of the respondents that stopped using PrEP gave no reason for their decision. However, 37.5% of them

said the product is not easily accessible, 25% said they have trusted partners, and 12.5% said the PrEP collection points are not convenient to the youth.

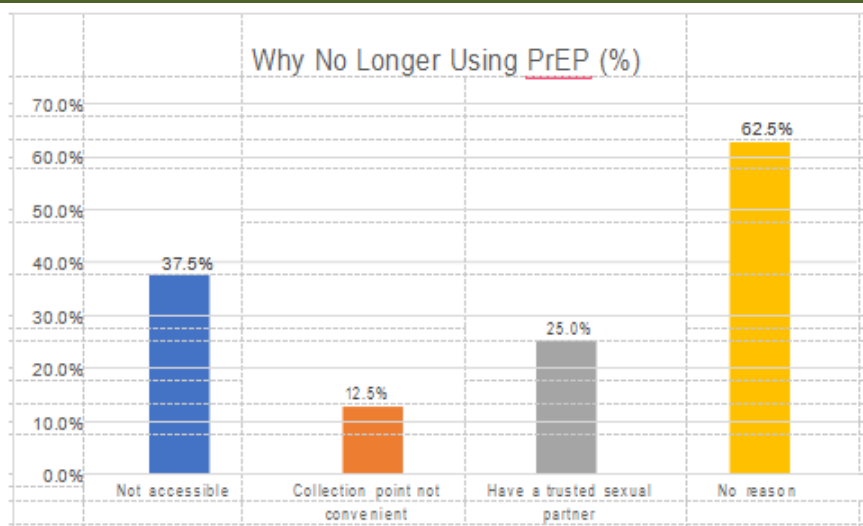


Figure 14: Reasons for stopping usage

PERCEPTIONS OF DIFFERENT PrEP ELEMENTS

Respondents were asked to give their perceptions of different factors related to PrEP. A 5-point scale was used to assess the level of their agreement to each of the statements. An option of don't know was included. These perceptions were asked only to those respondents that are aware of PrEP.

Lack of awareness prevents people from using PrEP

As can be seen in the figure below, majority of the respondents were in agreement with the fact that lack of awareness is preventing people from using PrEP. This calls for concerted efforts to come up with communication strategies that will be effective in reaching out to the product target groups.

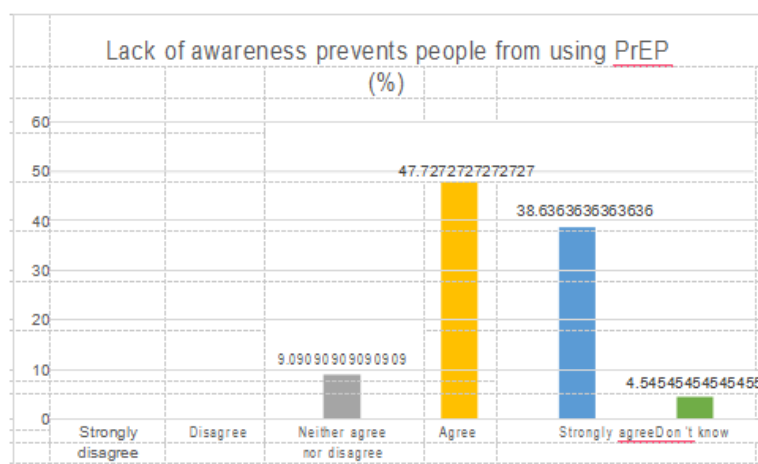


Figure 15: Lack of awareness prevents people from using PrEP

PrEP is easily accessible when I need it

47.7% of the respondents had said PrEP is easily accessible to those that may need it. However, there

were some slightly high percentages of respondents who were in disagreement.

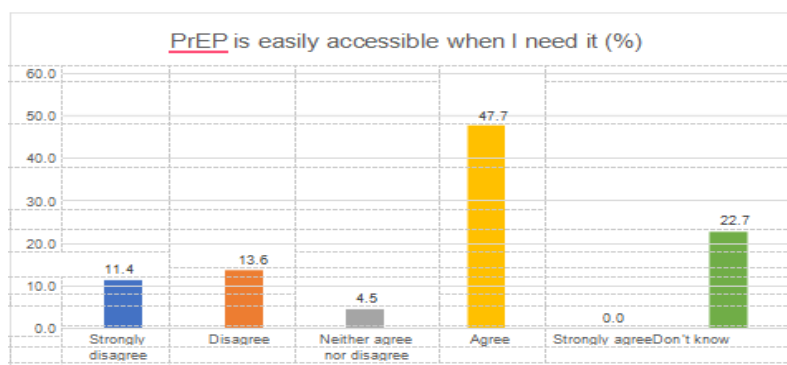


Figure 16: PrEP is easily accessible when I need it

PrEP is for use by promiscuous individuals

There was a mixed reaction to this sentiment, with other respondents agreeing that PrEP is for use by

promiscuous individuals, while others were in agreement.

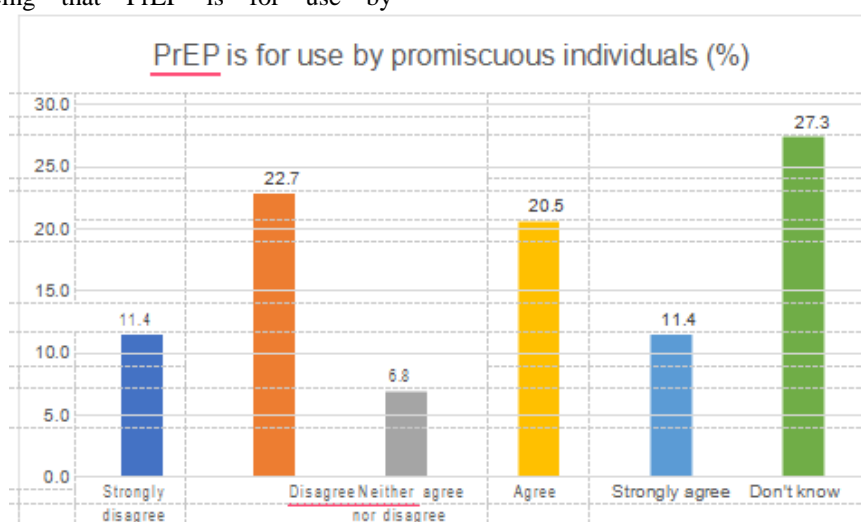


Figure 17: PrEP is for use by promiscuous individuals

PrEP is for use by people who have multiple sexual partners

Likewise, the perception that PrEP is for use by people who multiple sexual partners have received a mixed reaction, as can be seen in the figure below.

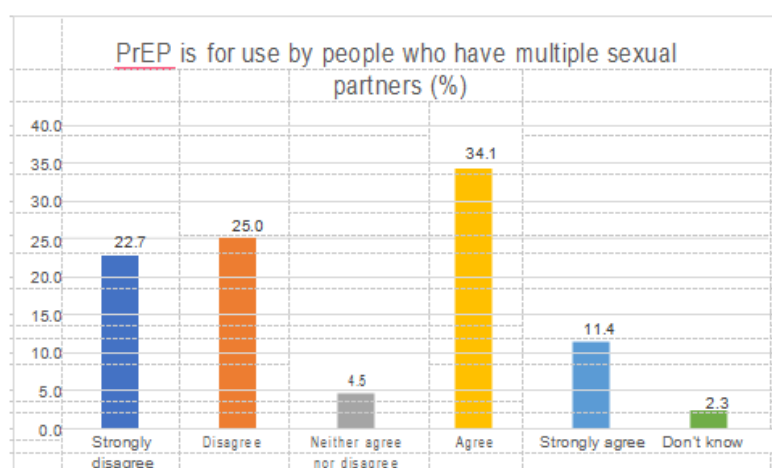


Figure 18: PrEP is for use by people who have multiple sexual partners

PrEP is for use by HIV positive individuals

There was a common disagreement on the respondents, meaning that PrEP is not only for use by HIV positive

individuals. As can be seen in the figure below, only 2.3% of the respondents were in agreement.

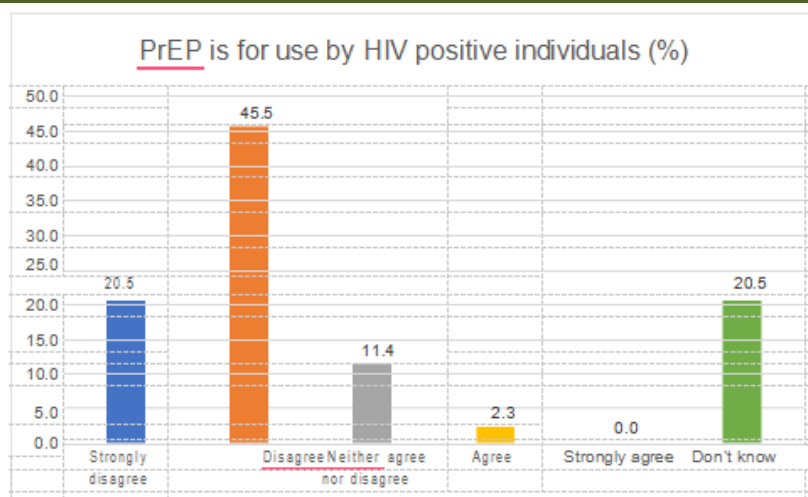


Figure 19: PrEP is for use by HIV positive individuals

PrEP can only be used within 24 hours after sexual intercourse

This statement had demonstrated some divisions in the perceptions of the respondents, with higher percentages

of respondents being in agreement and disagreement. A further 34.1% of them said they had no idea on this.

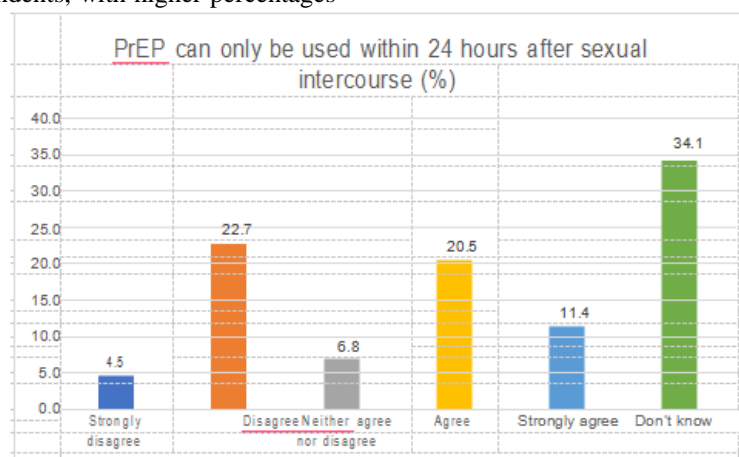


Figure 20: PrEP can only be used within 24 hours after sexual intercourse

You don't need to use PrEP if using a condom. Majority of the respondents said one doesn't need to use PrEP if s/he uses a condom during sexual intercourse. However,

a good percentage of these respondents did not agree to this perception, as seen in the figure below.

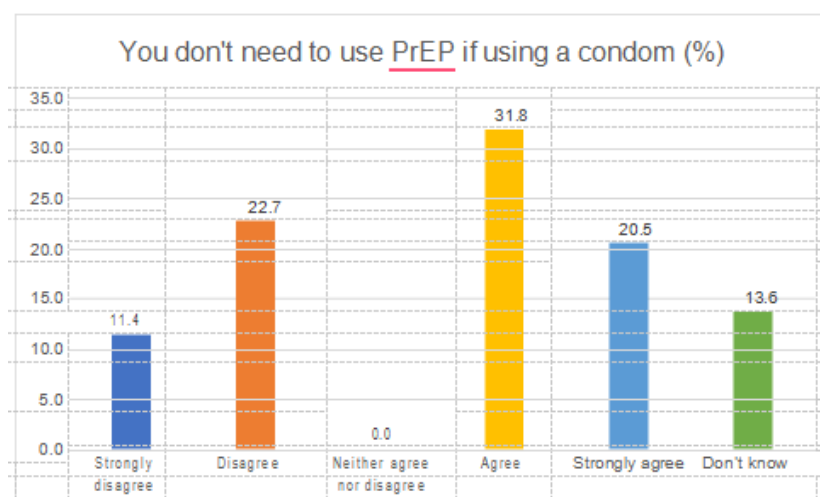


Figure 21: You don't need to use PrEP if using a condom

PrEP has bad side effects. 65.9% of the respondents have no knowledge of this element. 25% of them were

in agreement that PrEP has some bad side effects on the users.

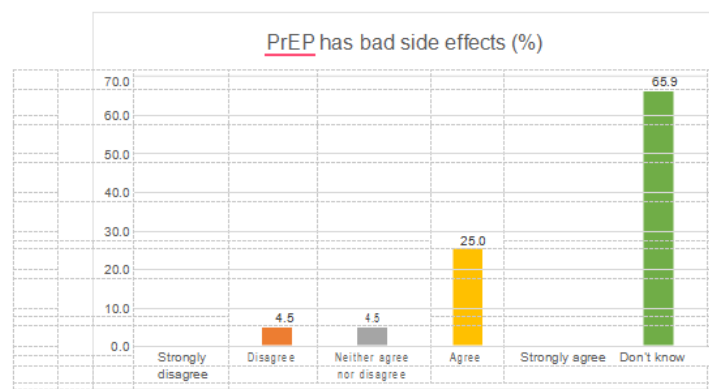


Figure 22: PrEP has bad side effects

You will need to be on PrEP for the rest of your life. There was a synonymous disagreement to the perception that one needs to be on PrEP for the rest of

one's life to make the PrEP effective. As can be seen in the figure below, 52.3% and 13.6% disagreed and strongly disagreed respectively.

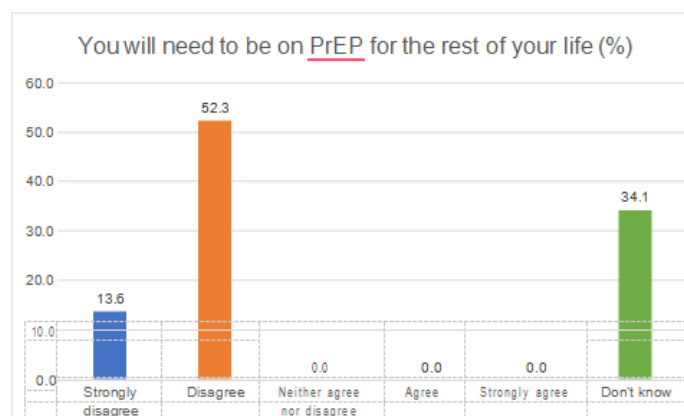


Figure 23: You will need to be on PrEP for the rest of your life

People taking PrEP are discriminated against

It was pointed out by majority of the respondents that people that take PrEP are not discriminated against, as can be seen from the figure below.

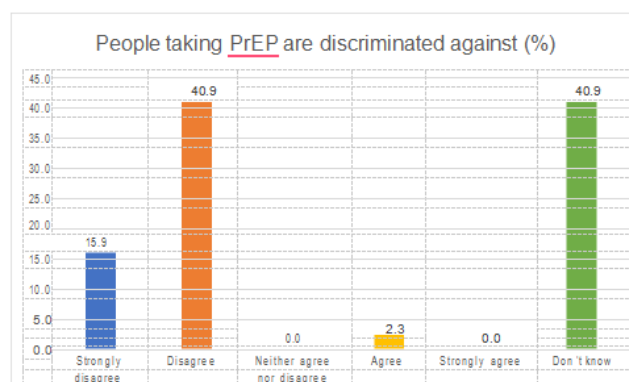


Figure 24: People taking PrEP are discriminated against

PrEP outlets are not convenient

As was established earlier on, most of the users of PrEP use healthcare facilities to get the PrEP. Asked as to whether these facilities are convenient, majority of the

respondents had a feeling that these PrEP issuing facilities are not convenient, as can be seen in the figure below. However, 22.7% were in disagreement, saying these collection spots are convenient.



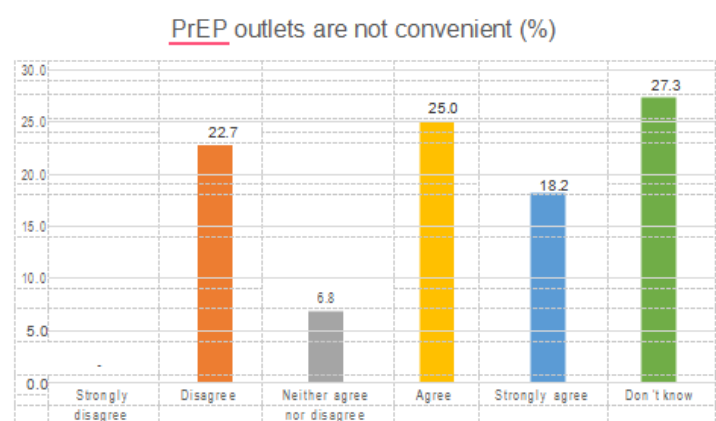


Figure 25: PrEP outlets are not convenient

Some cultural beliefs prevent people from using PrEP

There is a general belief among the respondents that there are some cultural beliefs that are preventing

people from using PrEP. 50% of the respondents were in agreement, and another 2.3% strongly agreed to this statement, as seen in the figure below.

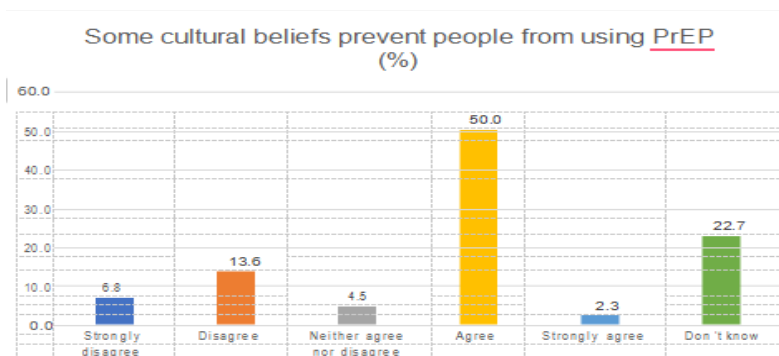


Figure 26: Some cultural beliefs prevent people from using PrEP

BARRIERS TO PrEP USAGE

Just as how every process or program comes with its own barriers, the researcher attempted to find out if there are any specific barriers in the usage of PrEP.

54.5% of the respondents were affirmative to say there do exist some barriers in as far as PrEP usage is concerned. 29.5% of them were not sure about the existence of these barriers. Another 15.9% said there are no any barriers.

Existence of PrEP Barriers

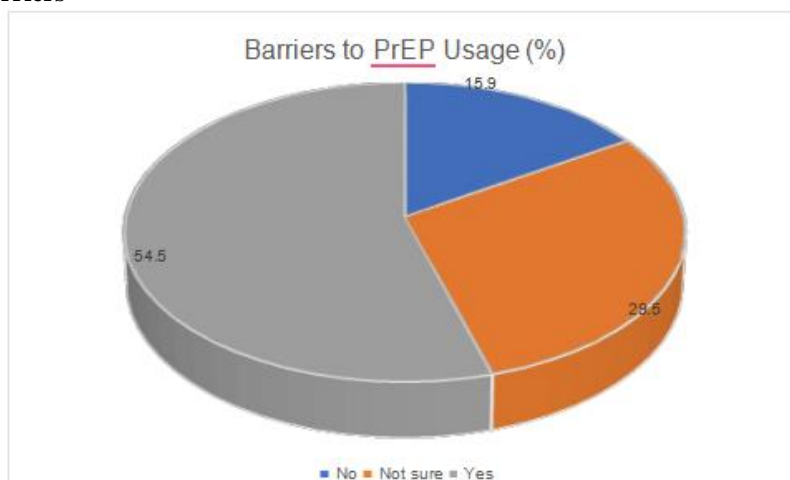


Figure 27: Barriers to PrEP Usage

Types of Barriers to PrEP Usage

Key among the barriers to PrEP usage is lack of information. 75% of the respondents mentioned this as one of the barriers. Lack of access to PrEP came

second, with 37.5% of the respondents singling out this factor. Other factors were negative perceptions towards PrEP and inconvenient outlets (16.7% apiece), as can be seen in the figure below.

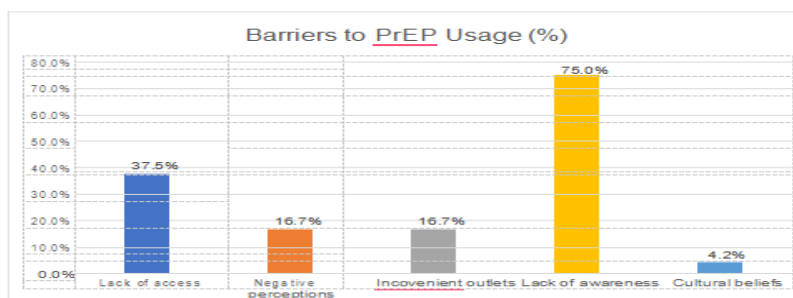


Figure 28: Types of barriers to PrEP usage

DISCUSSION

The awareness level of PrEP is in contrast to the MPHIA Study in which 14.2–15.9% of participants were aware of PrEP [9]. However, these awareness levels are closely related to the findings of a study by Treasure & John, 2023, in which 33.3% of participants reported prior awareness of PrEP [24]. In a study by Paudel *et al.*, 59.6% of participants were aware of PrEP. These varying awareness levels may signify varying levels of awareness creation in different countries, and calling for a review to scale up the awareness campaigns.

Current PrEP usage was found to be at 42%. A similar study was conducted by Paudel *et al.* and the findings of that study gave a slightly lower PrEP usage, at 30.4% of them had utilized it. It should be noted that the usage percentage as was established in this study was out of those respondents that are aware of PrEP. Ideally, this means that the usage level is way below the findings by Paudel *et al.* if it was to be computed against the total population. This calls for concerted efforts by government and its partners to devise strategies to increase PrEP uptake.

In a study by Gailloud, *et al.*, [25] multiple barriers were identified, particularly confidentiality from parents, low perceived need of PrEP and concerns about daily adherence and side effects [25]. Kumwenda *et al.* [17] identified other barriers to accessing PrEP under social/community challenges, results revealed that AGYW are usually mocked by their friends, other health users, and their families by saying ‘they are taking ARVs though not sick and even calling them names in vernacular’ insinuating that ‘‘they indulge in high-risk sex hence the need to take ARVs’ [17]. This study has managed to identify other barriers to PrEP usage which were not captured by Gailloud *et al.* [25]. As was indicated in the previous paragraph, a low PrEP uptake was reported. Addressing these emerging barriers can assist in increasing the PrEP uptake.

CONCLUSION

This section provides the response to each of the specific objectives:

Objective 1: To assess the awareness levels of PrEP among the youths. It was established that just 56% of the respondents are aware of PrEP.

Objective 2: To establish the perceptions of PrEP among the youths based on the different perception questions that were asked, it was noted that some of the perceptions that the youths have over PrEP are actually not true; for example, taking of PrEP within 24 hours as the only period within which PrEP can be effective. However, most of the perceptions the youth have on PrEP are positive and encouraging.

Objective 3: To assess the uptake of PrEP among the youths

It has been found that 31% of the youths that are aware of PrEP (14% of the total sample) has ever used PrEP. Of these that have ever used PrEP, 42.9% of them (6% of the total sample) are still using PrEP.

Objective 4: To identify the barriers to PrEP uptake among the youths Lack of awareness, lack of access, inconvenient outlets and negative perceptions are some of the barriers to PrEP usage.

REFERENCES

1. World Health Organization (2024). Global HIV statistics and prevention strategies. WHO.
2. UNICEF (2021). Eastern and Southern Africa: Children and HIV/AIDS. UNICEF Report 2021.
3. HIV.gov. (2023). The Global HIV and AIDS Epidemic.
4. International Labour Organisation (2024). HIV/AIDS in Africa. International Labour Organisation.
5. UNAIDS (2023). Youth and HIV in Sub-Saharan Africa. UNAIDS Report 2023. Available at: [unaids.org](https://www.unaids.org).

6. Cicchetti, D., & Rogosch, F.A. (2002). Adolescence and health risk behaviors. *Journal of Child Development*, vol. 69, pp. 74–91.
7. Mayer, K.H., Agwu, A., & Malebranche, D. (2020). Barriers to the Wider Use of Pre-exposure Prophylaxis in the United States: A Narrative Review. *Advances in Therapy*, vol. 37, pp. 1778–1811.
8. Centers for Disease Control and Prevention. (2022). Pre-Exposure Prophylaxis (PrEP). Retrieved February 15, 2024, from [https://www.cdc.gov/hiv/risk/prep/index.html#:~:text=Pre%2Dexposure%20prophylaxis%20\(or%20PrEP,use%20by%20at%20least%2074%25](https://www.cdc.gov/hiv/risk/prep/index.html#:~:text=Pre%2Dexposure%20prophylaxis%20(or%20PrEP,use%20by%20at%20least%2074%25).
9. Kabaghe, A., Singano, V., & Payne, D. (2023). Awareness of and willingness to use oral pre-exposure prophylaxis (PrEP) for HIV prevention among sexually active adults in Malawi: Results from the 2020 Malawi population-based HIV impact assessment. *BMC Infectious Diseases*, vol. 23, p. 712.
10. Haffeejee, F., Fasanmi-Kana, O., Ally, F., Thandar, Y., & Basdav, J. (2023). Four years later: Do South Africans know what pre-exposure prophylaxis for HIV is? *AIDS Care*, vol. 35, no. 4, pp. 466–473.
11. Bavinton, B.R. & Grulich, A.E. (2021). Access to PrEP is still highly concentrated. *Journal of HIV Prevention*.
12. Mkandawire, M., Nyondo, Y., Gwaza, P., Muyumbu, L., & Arney, J. (2023). Barriers, facilitators to PrEP uptake and continuation among adolescent girls and young women. PEPFAR.
13. Phillips, M. (2022). Malawi's PrEP Communication Strategy. *Journal of African Health Policy*, vol. 10, pp. 89–94.
14. Msiska, K. (2024). Implementation of injectable PrEP starts March 2024. National AIDS Commission.
15. Ministry of Health. (2020). Malawi National PrEP Guidelines. Lilongwe: Ministry of Health.
16. Lighthouse. (2023). HIV Prevalence among adolescents in Lilongwe. Lilongwe.
17. Kumwenda, J., Kundercha, R., Mpende, L., Lungu, N., Maket, B., & Mkandawire, M. (2022). Barriers to Pre-Exposure Prophylaxis (PrEP) among adolescent girls and young women (AGYW) in Machinga: Malawi EMPOWER experience.
18. Muhumuza, R., Ssemata, A.S., Kakande, A., Ahmed, N., Atujuna, M., Nomvuyo, M., & Nematadzir, T. (2021). Exploring Perceived Barriers and Facilitators of PrEP Uptake among Young People in Uganda, Zimbabwe, and South Africa. *Archives of Sexual Behavior*, pp. 1729–1742.
19. McCombes, S. (2023). How to Write a Literature Review | Guide, Examples, & Templates. Scribbr. Available at: [\[www.scribbr.com\]](https://www.scribbr.com)(<https://www.scribbr.com>).
20. Kennedy, M. (2007). Defining a Literature. *Educational Researcher*, pp. 139–147.
21. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, pp. 179–211.
22. Halton, C. (2023, December 14). Diffusion of Innovations Theory: Definition and Examples. Investopedia. Available at: [\[www.investopedia.com\]](https://www.investopedia.com)(<https://www.investopedia.com>).
23. Dai, M., & Calabrese, C. (2022). Socio-behavioral factors related to PrEP non-adherence among gay male PrEP users living in California and New York: A behavioral theory informed approach. *Journal of Behavioral Medicine*, pp. 240–251.
24. Treasure, J., & Livanou, M. (2024). Listening to parents caring for individuals with eating disorders through the lens of the common-sense model of illness perception. *International Journal of Eating Disorders*, 57(5), 1119-1122.
25. Gailloud, L., Gonzalez-Argoti, T., Philip, S., Josephs, L.S., Mantell, J.E., & Bauman, L.J. (2021). 'How come they don't talk about it in school?' Identifying adolescent barriers to PrEP use. *Health Education Research*, pp. 507–517.
26. Be in the know. (2023). HIV prevention programmes. Available at: [\[Be in the Know\]](https://www.beintheknow.org)(<https://www.beintheknow.org>).
27. Segal, R. (2021). PrEP uptake in African nations. AVAC Global PrEP Tracker Report, 4th quarter.

