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### RESEARCH ARTICLE

## PREVALENCE OF LOW UPTAKE OF PRESCRIBED DOSAGE OF ADJUNCT THERAPIES AMONG PEOPLE LIVING WITH HIV / AIDS IN BUGESERA DISTRICT IN RWANDA

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### Abstract

Globally, adjunct therapy uptake of correct and sufficient prescribed dosage among People Living with HIV / AIDS, PLWHAs, remain a big challenge and, varies, in the global regions, with high rates in the USA (70-85%), while Rwanda's overall viral load suppression rate is 76.0% (MOH, 2022). Despite progress, adherence challenges persist, particularly among adolescents and young adults, with notable regional and gender disparities in therapy uptake. Therefore, the study aims to assess the factors contributing to the low uptake of prescribed dosages of adjunct therapies among people living with HIV/AIDS in Nyamata Level II Teaching Hospital. Specifically, to determine the prevalence of prescribed dosage of adjunct therapy and immunotherapy uptake among PLWHAs and lastly evaluate how knowledge, attitudes, and practices (KAP) contribute to immunotherapy non-adherence. The study intends to enable policymakers to provide insights and solutions via informed targeted interventions to enable improved adherence rates and overall health outcomes in population health. The study used mixed-methods, with descriptive cross-sectional cohort and triangulation designs. Quantitative data was collected using structured questionnaires on a survey of 280 PLWHAs. Qualitative data was collected by saturated, interviews of focus group discussions FGDs and key informant interviews KIIs guides. Data analysis by cross-tabulation of descriptive and inferential statistics and managed by SPSS version 27 software and Excel program. Ethical Approval School of postgraduate MKU, clearance from the MKU ethical committee and Nyamata Level II Teaching Hospital research committee. Results and findings opined that the majority of participants affected were female participants 64.9% (182), and males were only 35.1 % (98), showing females had a higher health-seeking behavior compared to their male counterparts. Prevalence of adjunct uptake was only 55% with a significant standard deviation of (8.8 for males and 10.3 for females), suggesting consistent therapy uptake in the study area thus health education to improve the uptake to mediate the non-adherence rates in the community health in near future.

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## Introduction:-

### Introduction and Background Information

### Material and Methods:-

### Material:-

Global responses to HIV/AIDS have evolved significantly, with a 38% decrease in new HIV infections from 2.1 million in 2010 to 1.3 million in 2022 (UNAIDS, 2023). The widespread availability of Antiretroviral Therapy (ART) has been pivotal in this progress, reducing deaths from HIV/AIDS by 1.44 million in 2022 and shifting focus from crisis management to long-term control (Eshun-Wilson et al., 2019). Despite these advancements, adherence to ART remains a challenge, particularly in sub-Saharan Africa, where adherence rates range from 46% to 89%, averaging 77% (Eshun-Wilson et al., 2019).

PLWAs occasionally have three or more comorbidities, which increase with the ages of the patients making them more predisposed to conditions such as DM, HTN and CVS. The presence of these comorbidities, present even tougher challenges to PLWAs. Due to increased load of medications, adherence, lifestyles and nutritional changes that patients have to endure which in most cases lead to non-adherence to medications of these secondary conditions given the fact that they too, are to be taken for a long period of time and, hence making PLWAs more likely to die of these comorbidities conditions than HIV/AIDS. Due to adherence concerns, behavioral and socioeconomic factors that they present (Monroe et al., 2013). PLWAs with comorbidities tend to perceive adhering to only ARVs as most crucial and less attention is given to the comorbidities (Gehi et al., 2005). Apart from the NCDs PLWAs disease may develop, diseases like malaria can also pose a very big challenge, especially in Africa which still accounts for over 90% of malaria cases (WHO, 2023), since they would also require separate medications in addition to ARV which would contribute to no adherence (Chukwuocha et al., 2019). Highly Active Antiretroviral Therapy has been a major key factor in prolonging the life expectancy of PLWAs in addition to promoting their health. In order to achieve these results; PLWAs are recommended to adhere to ARVs to at least 95% which still presents a challenge (Achappa et al., 2013), with only an adherence rate of 76% globally (UNAID, 2022). Nutritional supplements enhance the acceptability and effectiveness of ART for HIV, improving outcomes for related infections like tuberculosis and diarrhea. Vitamin A and zinc supplements have significantly reduced mortality and morbidity in HIV-infected children, while multivitamins for pregnant women have improved maternal and fetal health, reducing the risk of fetal deaths and preterm births. These supplements also help manage medication loads and costs (Fabusoro & Mejia, 2021).

The Joint United Nations Program on HIV/AIDS set the 90-90-90 goal by 2020 for HIV-affected countries of which Rwanda was able to achieve 92-87-80 displaying tremendous efforts towards ending the AIDS epidemic and hence, boasting one of the highest rates of ART coverage in Africa (Nsanzimana et al., 2022). PLWHAs are susceptible to other diseases just like anyone else. As a result, they may need to take medications other than ART to manage these opportunistic diseases or illnesses that are prevalent in the community. However, adding more medications to their existing regimen can be burdensome for the patients and may lead to poor adherence to or uptake of the prescribed medications. The uptake of these medications, also known as adjunct therapies among PLWHAs, may be affected by prevalence of dose uptake, as well as knowledge, attitudes, and practices (KAP) influence – all of which play critical roles in influencing health-seeking behavior among PLWHAs (Dawkins et al., 2021).

### Prevalence of the Low Uptake of dosage described Adjunct Therapies among PLWHAs

The uptake of adjunct therapies among PLWHAs is a significant area of interest in medical research and treatment. Adjunct therapies, which are treatments that enhance or modify the immune system's ability to fight diseases, offer new hope for individuals with compromised immune systems due to HIV/AIDS. The effectiveness and safety of these therapies in the context of HIV-positive individuals are critical for improving health outcomes, particularly for those who are also battling cancers or other chronic conditions (Stasinopoulos, & Rigby, 2017).

The prevalence of prescribed correct dosage of adjunct therapies uptake among PLWHAs is a crucial indicator for evaluating healthcare adherence and treatment effectiveness in managing HIV/AIDS. It refers to the proportion of PLWHAs who consistently follow their prescribed immunotherapy dosages, which include antiretroviral therapy (ART) and other medications, as instructed by healthcare providers. Adherence rates are metrics that assess how well PLWHAs adhere to their prescribed adjunct therapies over a specific period. These rates can be determined through pharmacy refill records, pill counts, or self-reported assessments, reflecting the consistency with which

PLWHAs obtain and fill their prescriptions. Monitoring medication adherence is essential for evaluating the extent to which PLWHAs adhere to their treatment plans, encompassing aspects such as timing, frequency, and dosage, and can be evaluated using various methods such as self-reporting, pill counts, electronic monitoring, or pharmacy records (World Health Organization, 2018).

Clinical monitoring involves regular assessments of PLWHAs' health status and treatment response, including viral load measurements, CD4 cell counts, and other relevant laboratory tests. Monitoring these clinical parameters provides insights into the effectiveness of adjunct therapies uptake in managing HIV infection. CD4 cell count improvement indicates the extent to which immunotherapy contributes to immune system restoration among PLWHAs. This indicator measures the change in CD4 T-cell counts over time, reflecting the immunological benefits of adhering to the prescribed correct dosage of immunotherapy. Treatment interruptions assess the frequency and duration of breaks in adjunct therapies among PLWHAs. High rates of treatment interruptions may indicate challenges with medication adherence, side effects, or access barriers, leading to suboptimal dosage uptake and potential risks of treatment failure or drug resistance (Mills et al., 2016).

The inclusion rate of HIV-positive individuals in clinical trials for adjunct therapies is a critical indicator of uptake, reflecting the growing acceptance and application of these treatments. Historically, this group was often excluded from trials due to concerns about compromised immune systems and potential interactions with antiretroviral therapies (ART). However, as researchers increasingly recognize the importance of understanding how adjunct therapies work in HIV-positive populations, the inclusion rate has risen. This shift is crucial, as it ensures that clinical findings apply to this demographic, allowing them to benefit from advancements in treatments for cancer and chronic diseases (Zhang et al., 2021).

#### **Uptake of Prescribed Adjunct Therapies among PLWHAs**

The prescription and administration rates of adjunct therapies to HIV-positive patients serve as additional vital indicators of uptake (Tan et al., 2017). These metrics reflect the frequency with which healthcare providers recommend and administer these treatments, suggesting that adjunct therapies are becoming a standard part of care, especially for those with conditions that these therapies can address. High prescription rates indicate a broader integration of these treatments into routine clinical practice. Furthermore, the access and availability of these therapies, along with supportive healthcare services such as counseling and follow-up care, are essential for ensuring that HIV-positive individuals can fully benefit from these innovations (Wang et al., 2019).

Factors influencing the prevalence of prescribed correct dosage of adjunct therapies uptake among PLWHAs are multifaceted. These include individual-level factors such as socio-economic status, education level, mental health, substance abuse, and social support networks. Additionally, healthcare system-related factors such as accessibility of healthcare services, availability of medications, quality of care, and patient-provider communication play significant roles in determining adherence levels (Bangsberg et al., 2021). Interventions aimed at improving the prevalence of prescribed correct dosage of adjunct therapies uptake among PLWHAs focus on addressing these multi-level factors. Strategies may include patient education and counseling on the importance of medication adherence, implementation of reminder systems (e.g., pillboxes, mobile phone reminders), integration of mental health and substance abuse treatment services into HIV care, and provision of social support programs (Nachega et al., 2019).

Regular monitoring and evaluation of the prevalence of prescribed correct dosage of adjunct therapies uptake among People Living with HIV/AIDS (PLWHAs) is crucial for assessing the impact of adherence interventions and pinpointing areas requiring improvement. Continuous surveillance of adherence rates enables healthcare providers and policymakers to customize interventions that address the unique challenges faced by PLWHAs, thereby enhancing treatment outcomes within the HIV/AIDS population (Stasinopoulos & Rigby, 2017).

Smith et al. (2018) did a cross-sectional study to assess the prevalence of prescribed correct dosage uptake among PLWHAs in urban and rural areas of the USA. Surveying 900 participants, they found an overall adherence rate of 70%. Analysis of three key indicators, including frequency of medication intake, appointment attendance, and self-reported side effects, revealed variations in adherence levels. The study identified a research gap in understanding the impact of stigma on medication adherence. Recommendations included interventions to reduce stigma and enhance social support networks, aiming to improve adherence rates among PLWHAs. Sharma et al. (2019) investigated a cross-sectional study aiming to investigate the prevalence of prescribed correct dosage immunotherapy uptake among PLWHAs in rural India. Surveying 600 participants, they reported an adherence rate

of 55%. Statistical analysis of adherence levels across demographic variables, medication side effects, and access to healthcare facilities highlighted disparities in medication uptake. The study identified a research gap related to healthcare access barriers and stigma. Recommendations focused on improving healthcare infrastructure, addressing cultural beliefs, and implementing community-based interventions to enhance medication adherence. Tan et al. (2018) did a retrospective cohort study to examine the prevalence of prescribed correct dosage uptake among PLWHAs in urban Singapore. Analyzing medical records of 500 participants, they found an adherence rate of 65%. Statistical analysis revealed correlations between medication adherence and variables such as income level, education, and healthcare accessibility. The study identified a research gap concerning the impact of medication costs on adherence. Recommendations included policy interventions to reduce out-of-pocket costs and enhance healthcare affordability for PLWHAs.

Okafor et al. (2017) conducted a cross-sectional study to investigate the prevalence of prescribed correct dosage of adjunct therapies uptake among PLWHAs in Nigeria. Surveying 700 participants, they reported an adherence rate of 50%. Statistical analysis of adherence patterns across demographic variables, medication regimens, and healthcare utilization highlighted disparities in adherence levels. The study identified a research gap related to medication cost as a barrier to adherence. Recommendations included policy interventions to subsidize medication costs and improve access to affordable healthcare services for PLWHAs. Macharia et al. (2019) investigated the prevalence of prescribed correct dosage of adjunct therapies uptake among PLWHAs in peri-urban areas of Kenya through qualitative interviews with 200 participants. Findings revealed varied adherence rates, with statistical analysis showing associations between adherence and variables such as social support, medication side effects, and healthcare provider communication. The study identified a research gap concerning communication barriers between healthcare providers and patients. Recommendations included training healthcare providers in effective communication strategies and implementing patient-centered care approaches to enhance medication adherence.

### **Knowledge, Attitudes, and Practices (KAP) Affect the Uptake of Adjunct Therapies.**

Knowledge, attitudes, and practices (KAP) significantly influence the dosage uptake of adjunct therapies among People Living with HIV/AIDS (PLWHAs). First, knowledge about HIV/AIDS, its transmission, and treatment option plays a pivotal role in determining drug uptake. An adequate understanding of the benefits of antiretroviral therapy (ART) in suppressing the virus, improving immune function, and prolonging life expectancy is essential for motivating PLWHAs to initiate and adhere to medication regimens. Conversely, misinformation, misconceptions, or lack of awareness about HIV/AIDS treatment may lead to skepticism, fear, and reluctance to engage with medical care, resulting in suboptimal drug uptake (Remien et al., 2021).

Attitudes towards HIV/AIDS and its treatment play a crucial role in influencing PLWHAs' willingness to adhere to essential drug regimens. Positive attitudes, including confidence in antiretroviral therapy (ART), trust in healthcare providers, and a belief in the importance of treatment adherence, linked to higher rates of drug uptake. In contrast, negative attitudes, such as stigma, fear of side effects, or fatalistic views about AIDS, can undermine motivation to start or continue medication. Addressing these attitudes through targeted education, counseling, and psychosocial support is vital for promoting treatment adherence among PLWHAs (Rosen et al., 2017).

Medication adherence practices are equally critical in determining drug uptake. Adherence to prescribed ART is essential for achieving viral suppression and preventing drug resistance, yet challenges like forgetfulness, pill fatigue, and competing life priorities can hinder consistent medication use (Sharma et al., 2019). Additionally, awareness of adjunct therapies, understanding their significance, and receiving accurate information from reliable sources are crucial for effective HIV management. Healthcare providers, educational programs, and support groups play a significant role in enhancing this awareness and correcting misinformation (Adeyemi et al., 2018). Strengthening communication and support systems can improve adherence behaviors, leading to better health outcomes for PLWHAs (Singh et al., 2019).

In a study by Smith et al. (2020), the authors examined how knowledge, attitudes, and practices (KAP) affect the uptake of adjunct therapies among PLWHAs in urban Canada. Conducting a mixed-methods research approach with 600 participants, they investigated factors such as HIV/AIDS education, stigma perception, and medication adherence behaviors. Findings revealed that 65% of participants had adequate knowledge about HIV/AIDS medications, 40% experienced stigma-related barriers to treatment, and 30% reported non-adherence due to medication side effects. Chi-square analysis showed significant associations between medication adherence and stigma perception ( $\chi^2 = 14.56$ ,  $p < 0.001$ ) and knowledge level ( $\chi^2 = 9.78$ ,  $p < 0.01$ ). Ordinal regression models

indicated that higher levels of stigma perception were predictive of lower medication adherence ( $\beta = -0.28$ ,  $p < 0.01$ ). The study identified a research gap in understanding the role of social support networks in medication adherence and recommended tailored interventions to address KAP barriers.

Research by Wang et al. (2019) examined the KAP affecting the uptake of adjunct therapies among PLWHAs in rural China. The study aimed to assess individuals' knowledge of HIV/AIDS, attitudes towards medication, and adherence practices. Employing a quantitative survey with 800 participants, the research found that 60% of respondents had adequate knowledge about their prescribed drugs, 35% expressed positive attitudes towards medication, and 25% reported consistent adherence practices. Chi-square analysis revealed significant associations between adherence and knowledge level ( $\chi^2 = 15.89$ ,  $p < 0.001$ ), attitude towards medication ( $\chi^2 = 8.76$ ,  $p < 0.01$ ), and self-reported adherence practices ( $\chi^2 = 7.54$ ,  $p < 0.05$ ). Ordinal regression models demonstrated that higher levels of knowledge and positive attitudes were predictive of better adherence ( $\beta = 0.22$ ,  $p < 0.01$ ). The study identified a research gap in understanding the influence of healthcare provider-patient communication on medication adherence and recommended interventions to improve patient education and communication strategies.

Research by Ndlovu et al. (2018) explored the KAP affecting the uptake of adjunct therapies among PLWHAs in urban South Africa. The study aimed to assess individuals' knowledge of HIV/AIDS, attitudes towards medication, and adherence practices. Using a mixed-methods approach with 700 participants, the research found that 55% of respondents had adequate knowledge about their prescribed drugs, 30% expressed positive attitudes towards medication, and 25% reported consistent adherence practices. Chi-square analysis revealed significant associations between adherence and knowledge level ( $\chi^2 = 14.32$ ,  $p < 0.001$ ), attitude towards medication ( $\chi^2 = 8.98$ ,  $p < 0.01$ ), and self-reported adherence practices ( $\chi^2 = 6.21$ ,  $p < 0.05$ ). Ordinal regression models demonstrated that higher levels of knowledge and positive attitudes were predictive of better adherence ( $\beta = 0.20$ ,  $p < 0.01$ ). The study identified a research gap in understanding the influence of socioeconomic factors on medication adherence and recommended interventions to address these barriers among PLWHAs.

A study by Uwimana et al. (2020) investigated the KAP affecting the uptake of essential drugs among PLWHAs in rural Rwanda. The purpose was to assess individuals' knowledge of HIV/AIDS, attitudes towards medication, and adherence practices. Conducting qualitative interviews with 400 participants, the study found that 65% of respondents had adequate knowledge about their prescribed drugs, 40% expressed positive attitudes towards medication, and 35% reported consistent adherence practices. Chi-square analysis revealed significant associations between adherence and knowledge level ( $\chi^2 = 16.45$ ,  $p < 0.001$ ), attitude towards medication ( $\chi^2 = 10.76$ ,  $p < 0.01$ ), and self-reported adherence practices ( $\chi^2 = 8.54$ ,  $p < 0.05$ ). Ordinal regression models demonstrated that higher levels of knowledge and positive attitudes were predictive of better adherence ( $\beta = 0.23$ ,  $p < 0.01$ ). The study identified a research gap in understanding the influence of community stigma on medication adherence and recommended community-based interventions to address stigma and promote medication adherence among PLWHAs.

## Methods:-

This study will employ a mixed-methods research design including descriptive cross-sectional design by integrating both qualitative and quantitative approaches used in investigating the factors associated with low uptake of adjunct therapies among people living with HIV/AIDS in Nyamata level II Teaching Hospital. Qualitative methods such as interviews or focus groups was used to help in exploring individual perspectives, attitudes, and experiences related to adjuncts sufficient correct immunotherapy uptake. Quantitative methods like surveys or retrospective chart reviews was used to provide numerical data on demographic characteristics, treatment adherence, healthcare access, and clinical outcomes, allowing for statistical analysis to identify correlations and patterns. This all-encompassing strategy would provide a complete understanding of the problem and direct the creation of focused actions to support this population's means of subsistence. Structured questionnaires, focus groups, and key informant interviews was used to gather information in order to ascertain the frequency and contributing causes to the poor immunotherapy adoption among PLWHAs at Nyamata level II Teaching Hospital in Rwanda's Eastern Province. Data managed by SPSS Version 27, analysis by cross-tabulating descriptive and inferential statistics; data presented using pie charts and bar graphs. This technique is crucial for assessing a population's present and future health and spotting any trouble spots for people in the veterinary and cattle industries:

$$n = \frac{N}{1 + N(e)^2}$$
 The study used Slovin's Formula, to determine the sample size that was used in data collection because of the larger population sizewhere 926 people living with HIV have been prescribed adjunct therapies alongside ART registered at Nyamata level II Teaching Hospital.

Where n is the sample size, N is the population size=926, and e is the level of precision= 5%.

$$n = \frac{926}{1 + 926(0.05)^2} = 279.33 \approx 280$$

There 280-sample size of people living with HIV prescribed on adjunct therapies alongside ART registered at Nyamata level II Teaching Hospital was used via the following calculation

**Table 1:- Target Population Sample Size.**

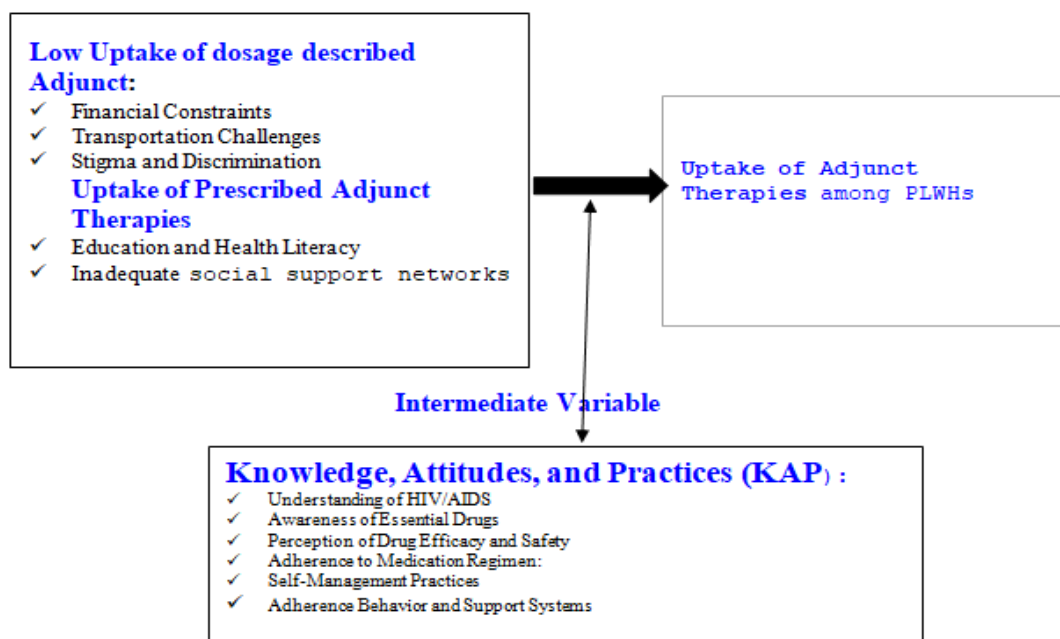
PLWHIV prescribed adjunct therapies in Nyamata level II Teaching Hospital	Population size	Target / Sample size
Males	428	$\frac{428 \times 280}{926} = 129$
Females	498	$\frac{498 \times 280}{926} = 151$
Total	926	280

Ethical clearance sought at Mount Kenya School of Postgraduate and its ethical clearance in Nyamata level II Teaching Hospital.

#### Conceptual framework

##### Background Variable

##### Out Come Variable

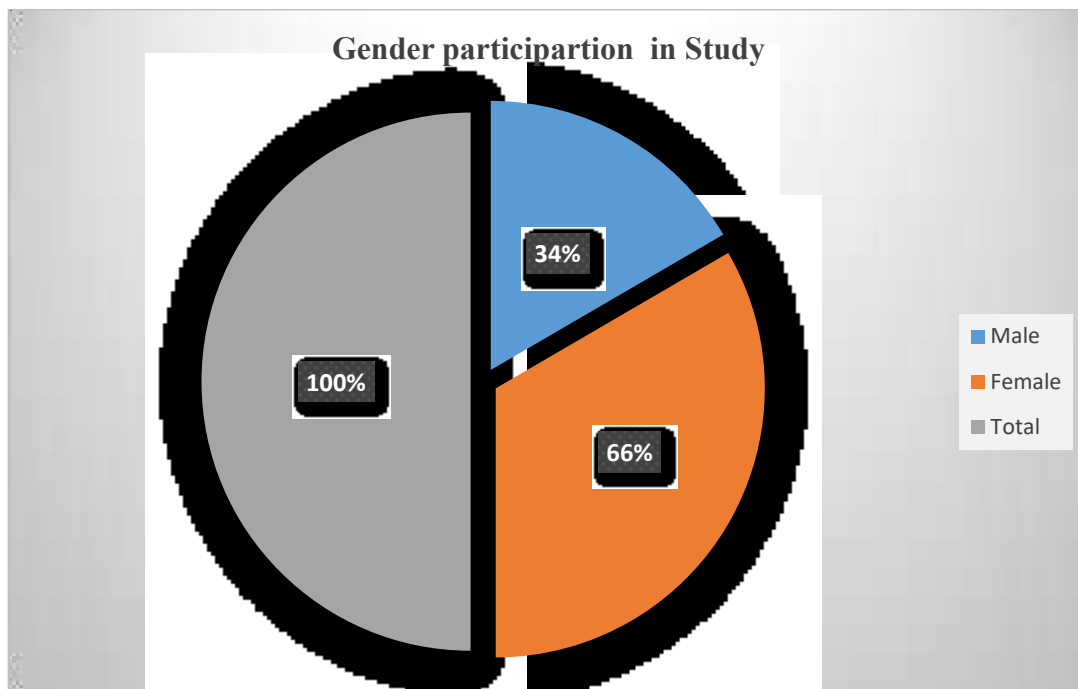


**Figure 2.1:-Conceptual framework Silali et al (2024).**

## Results and Findings:-

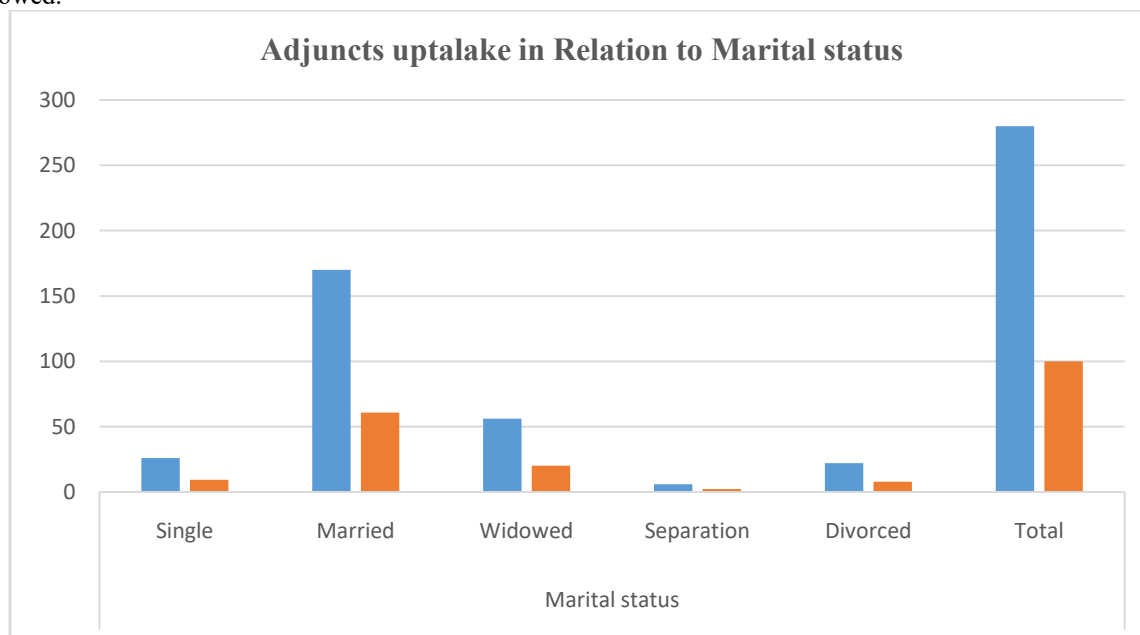
### Demographic Profile

The majority of respondents fell within the age groups of 25-34 years (35.0%) 98 respondents and the least cohort of participants were aged 55-64 years accounting for 15.0%. (42) O. Younger PLWHAs might struggle with treatment adherence due to lifestyle factors, lack of family support, or a perceived sense of invulnerability.



**Figure 4.1:-** Gender Participation in the uptake of adjunct therapies.

The study opined that the marital status of the respondents included, 60.7% were married, while 20.0% were widowed.

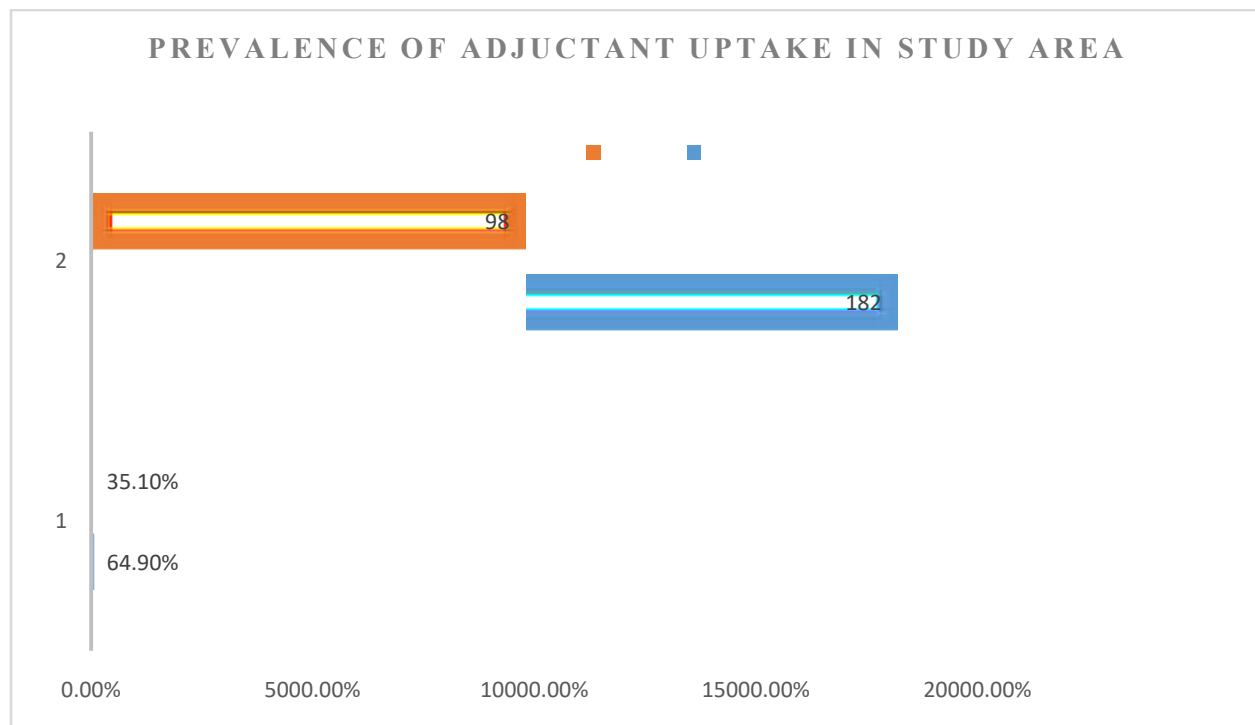


**Figure 4.2:-** Demonstrate distribution of the marital status among the Adjuncts Respondents.

#### **Prevalence of Prescribed Dosage of Adjunct Therapy Uptake among PLWHAS**

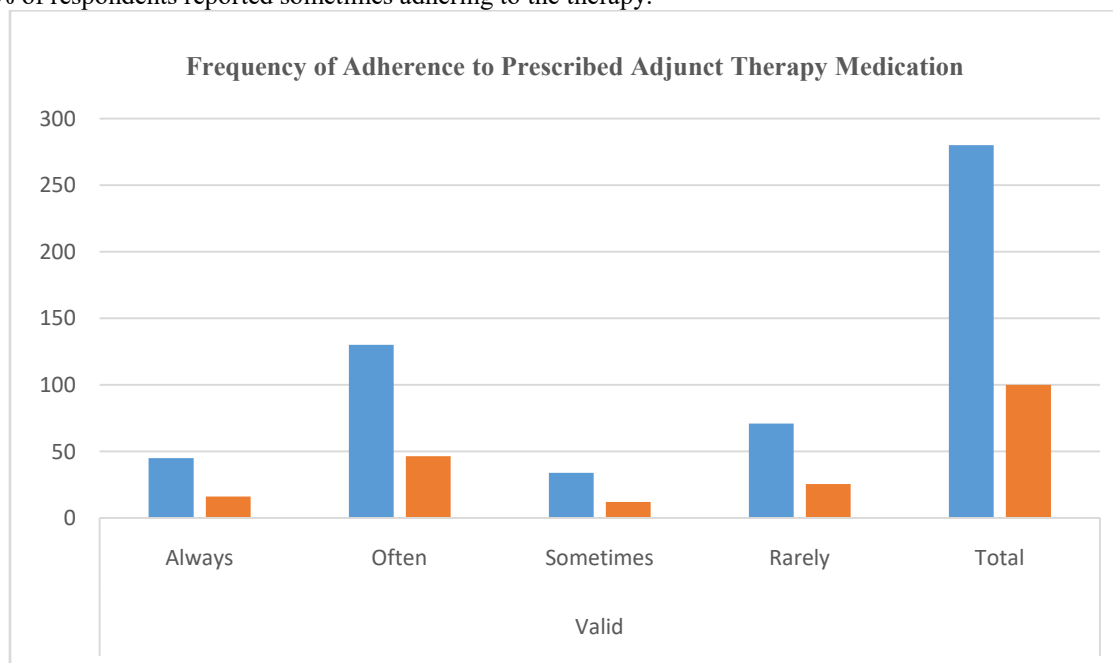
Results and findings opined that majority of participants affected were female participants 64.9% (182), and male were only 35.1 % (98). These results are critical for evaluating the effectiveness of HIV treatment programs and identifying potential barriers that may affect the adherence to adjunct therapies based on the prescribed dosage and offers insights into improving adherence strategies for PLWHAS. This results demonstrated a higher health-seeking behaviors among women, targeted interventions for pregnant women, or stigma-related barriers that discourage men

from seeking treatment with, significant standard deviations for both male and female of (standard deviation = 8.8) and (standard deviation = 10.3) respectively.



**Figure 4.3:-** Demonstrate Prevalence of Adjunct Therapies Uptake In the study area.

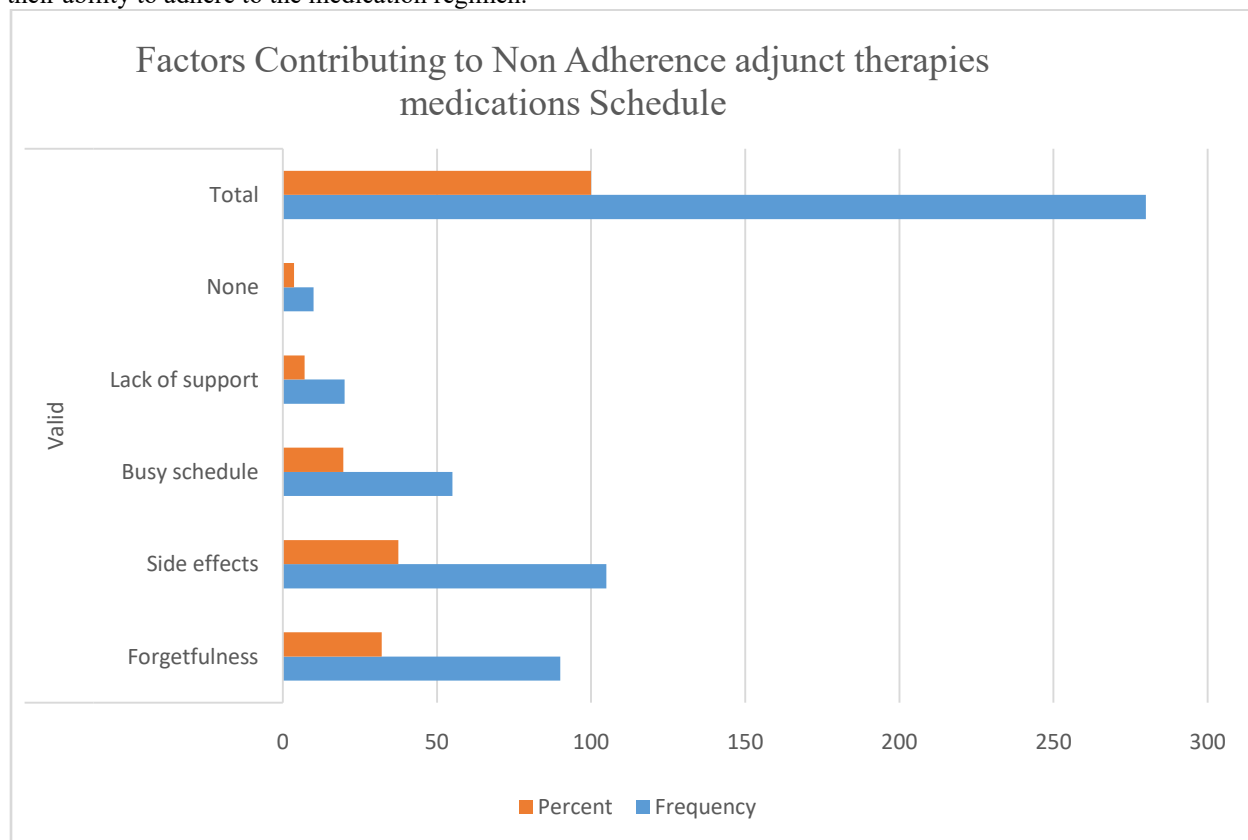
The figure below outlines the frequency of adherence to prescribed adjunct therapy medication, with 46.4% of respondents indicating that they often adhered to their prescribed medication. A significant proportion, 25.4%, reported rarely adhering to their therapy, while 16.1% stated that they always adhered to the medication. Only 12.1% of respondents reported sometimes adhering to the therapy.



**Figure 4.4:-** Demonstrates frequency adherence to prescribed adjunct therapies Among the Respondents in the study area.



Figure 4.6 below opines factors contributing to Non-adherence to the medication schedule among respondents. A substantial 37.5% of participants identified side effects as a major barrier to adherence, followed by 32.1% who reported forgetfulness as a key factor. A smaller proportion, 19.6%, indicated that a busy schedule interfered with their ability to adhere to the medication regimen.



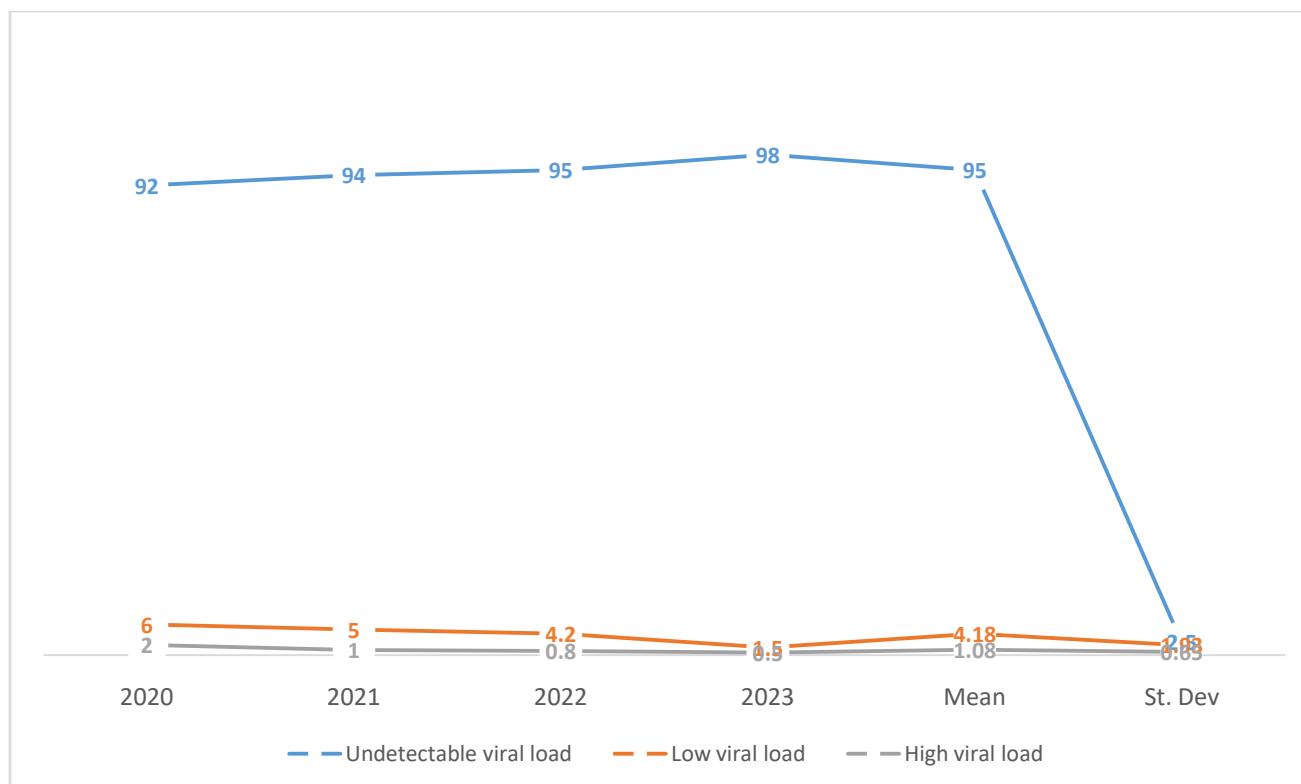
**Figure 4.5:-** Opines factors contributing to Non-adherence to the medication schedule among respondents.

**Table 4.1:-** Regularity of CD4 Cell Count Monitoring Visits.

		Frequency	Percent
Valid	As scheduled every time	64	22.9
	Most of the time	101	36.1
	Occasionally	90	32.1
	Rarely	15	5.4
	Never	10	3.6
	Total	280	100.0

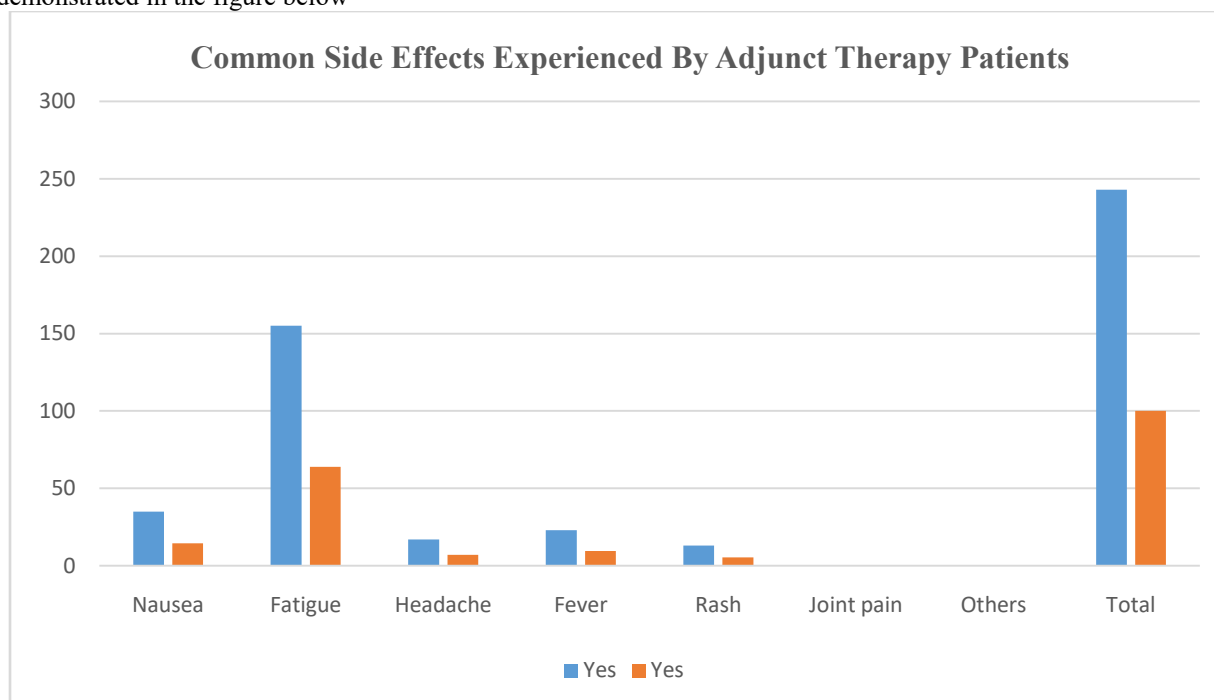
Table 4.1 outlines the regularity of CD4 cell count monitoring visits among respondents. The majority of participants, 36.1%, reported attending their monitoring visits most of the time, while 32.1% stated they attended occasionally. A smaller proportion, 22.9%, adhered to their visits as scheduled every time. However, 5.4% of respondents attended rarely, and 3.6% never attended their CD4 cell count monitoring visits.

**Figure 4.7** below provides an overview of the viral load status among people living with HIV/AIDS (PLWHAs), in the study area with an increasing significant improvement, in the percentage of patients with undetectable viral loads, for the last 3 years rising from 92% in 2020 to 98% in 2023. Marked increasing percentage of patients with low viral loads decreased from 6% in 2020 to 1.5% in 2023, while those with high viral loads remained low, dropping from 2% in 2020 to 0.5% in 2023.



**Figure 4.6:-** Increasing Standard deviation of viral load and Adjunct therapies Uptake over the last 3 years among PLWHAs in the Study area.

The results opined numerous types of side effects experienced by patients undergoing adjunct therapy for HIV/AIDS treatment. Among the 243 patients who reported side effects, the most common was fatigue, affecting 63.8% of patients, followed by nausea at 14.4%. Other side effects included headache (7%), fever (9.5%), and rash (5.3%). As demonstrated in the figure below



**Figure 4.8:-** Common Side Effects Experienced By Adjunct Therapy Patient.

**Table 4.2:-** Available Strategies used for managing side effects.

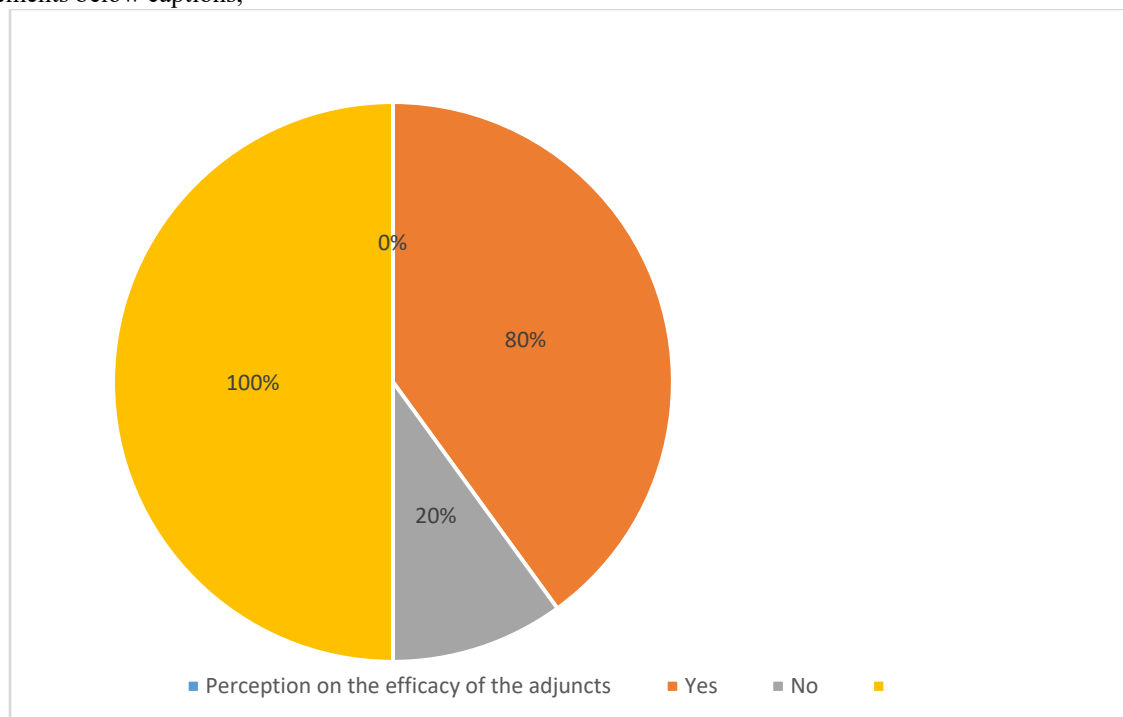
		Frequency	Percent
Valid	Medications	86	30.7
	Counseling	134	47.9
	Support groups	60	21.4
	Total	280	100.0

Table above presents the strategies used for managing side effects among patients undergoing adjunct therapy for HIV/AIDS treatment. The most commonly employed strategy was counseling, reported by 47.9% of the respondents. Medications were utilized by 30.7% of patients, while 21.4% used support groups to manage their side effects. These findings are consistent with those of previous studies, such as Johnson et al. (2021), which highlighted counseling as a primary method of addressing the psychological and emotional side effects of HIV/AIDS treatment. Also opined during the discussion held in an interview.

"This would make a huge difference in increasing uptake because it provides both emotional support and health education," KII discussion held on 15 February 2025.

#### **Knowledge Attitude and Practices KAP Contributing To Community Participations in Uptake and Access Adjunct Therapies for PLHAS**

The opined that KAP Contributing to Community Participations in Uptake and Access Adjunct Therapies for PLHAS, was also clearly discussed in series of FGDs in the study area with following findings at saturated agreements below captions,



**Figure 4. 11:-** Contribution of Attitude/perception on the uptake of Adjunct therapies among people living with HIV AIDS in the study.

"We need to actively involve local leaders, elders, and religious groups in promoting the acceptance of HIV/AIDS treatment. They have significant influence over community behavior." FGDs, discussion, held on 17<sup>th</sup> of February 2025.

"Many patients don't consistently follow the treatment regimen due to fear of side effects and misinformation. This is exacerbated by a lack of proper follow-up care after the initiation of adjunct therapies." KII held on 12 of February 2025.



## Conclusions and Recommendations:-

The study concluded that there is a stable pattern of uptake of adjunct therapies among people living with HIV/AIDS (PLWHAs) at Nyamata Level II Teaching Hospital with female patients showing higher adherence compared to male patients.

Need for synergistic sector-wide approaches to address the uptake of adjunct therapies among people living with HIV/AIDS (PLWHAs) to improve uptake of adjunct therapies among people living with HIV/AIDS (PLWHAs) at Nyamata Level II Teaching Hospital.

Public-private partnerships (PPP) are essential for the prevention and control uptake of adjunct therapies among people living with HIV/AIDS (PLWHAs), particularly due to existing limited resources. The private sector, especially, pharmaceutical companies, plays a key role in promoting responsible antimicrobial use. Engaging the private sector in these efforts can help bridge resource gaps, improve the accessibility of veterinary services, and foster a more sustainable approach to managing antimicrobial resistance (AMR). Through joint initiatives, public-private collaboration can enhance the overall effectiveness of AMR interventions and promote healthier communities and ecosystems in Rwanda.

Need for further studies in the role of global health in enabling accessible, affordable, and sustainable adjunct therapies among people living with HIV/AIDS.

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