ANALYSIS OF FACTORS AFFECTING ADHERENCE TO ANTI RETROVIRAL THERAPY (ART) AMONG HIV INFECTED CLIENTS REPORTING AT ART CLINIC IN KISWA HEALTH CENTRE III, KAMPALA DISTRICT.

BY

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FEBRUARY, 2024

DECLARATION

I, **Nabacwa Agnes Lutaaya,** hereby declare that this work is my original work and has never been submitted before any School, or institution of learning for any academic award of any qualification. Theories, ideas and materials obtained from existing literature and other sources have been dully acknowledged and referenced.

Signature…… **Date……**

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(Researcher)

APPROVAL OF SUBMISSION

I hereby declare that the research titled, "**Analysis of Factors Affecting Adherence to Anti-Retroviral Therapy (ART) Among HIV Infected Clients Reporting at ART Clinic in Kiswa Health Centre III, Kampala District"** by "**Nabacwa Agnes Lutaaya"** has been done under my supervision and is approved for submission to the university.

Signature: Amos Ronald Kalukusu (PhD) Supervisor. **Date 20th March 2023**



DEDICATION

I dedicate this book to my late mum Nabukenya Raphaeline, it wasn't easy losing her during my third year of my studies,she was such a a pillar to my professional achievement, will miss you so much during my celebration of this milestone moved.

Rest in eternal peace dear mom.

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I wish to recognize the productive ideas they gave me during the preparation of this report right from the proposal up to data collection. Special thanks go to my supervisor;Dr.Amos Kalukusu who through his tireless efforts in guiding me throughout and whose knowledge made it possible for this research report to be a reality. I appreciate all the efforts and good heartedness, my group members (God's mercy group) for all the discussions we had that made the completion of this course a reality.

May the good Lord bless them abundantly.

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DEFINITION OF TERMS

Adherence: Is a medical term that means the degree to which a patient correctly follows medical advice.

ART Clinic: This is a special clinic concerned with giving HIV patients drugs/medication to manage the disease.

ARV Drugs: These are drugs developed to manage and slow the progression of HIV infection among infected individuals.

Client: This term is used to refer to patients attending HIV/AIDS services or any other medical services in general**.**

Drug Related Factors: These are factors or issues attributed to a particular drug such as side effects.

Health Facility Factors: These are factors concerned with facility such as availability of drugs and health workers.

Socio Economic Factors: These are social and economic experience and realities that help mold ones personality attitude and lifestyle.

ABBREVIATIONS

AIDS	:	Acquired Immune Deficiency Syndrome
ART	:	Anti-retroviral therapy
ARVs	:	Anti Retrovirals
CNE	:	Continuous Nursing Education
DHO	:	District Health Officer
HIV	:	Human Immunodeficiency Virus
HMIS	:	Health Management Information System
MoH	:	Ministry of Health
PCP	:	Pneumocystis jiroveci pneumonia
RCT	:	Routine Counseling and Testing
SPSS	:	Statistical Package for Social Sciences
WHO	:	World Health Organization

ABSTRACT

A study was carried out at Kiswa Health Center III with the purpose of identifying the factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients. The specific objectives for the study include;To determine the social economic factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III, To assess the drug related factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III, To identify the health facility factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III.
A descriptive and cross-sectional design was employed and 60 respondents were selected using simple random sampling. Data was collected using a questionnaire.

The study found out that respondents faced various socio-economic factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients as most 38 (63%) had been taking ARVs for 1 – 3 years, 60 (100%) reported facing problems in taking the drugs, 28 (46.7%) respondents reported non availability of medication, 24 (40%) who reported lack of support, 8 (13.3%) reported forgetfulness, 40 (66.7%) resided 1 – 3 km away from the nearest health facility offering ARVs, 40 (66.7%) spent between 1000 – 5000shs on transport to the health facility to fetch ARVs, 40 (66.7%) reported not having community/peer support groups to encourage and motivate respondents to take ARVs.

The study revealed that respondents had ever faced drug related factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients as all 60 (100%) had ever missed their dose and 20 (33.3%) had ever abandoned their medication due to unavailability of medication, 16 (26.7%) forgetfulness, 12 (20%) side effects and 8 (13.3%) lack of support while pill burden and fatigue was a also a major factor as 40 (66.7%) respondents were supposed to take 4 pills daily and all 60 (100%) had ever experienced side effects of medication including 30 (50%) nausea and 20 (33.3%) vomiting.

Respondents also faced various health facility related factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients and these included 40 (67%) inadequate supervision by health workers in the community, 40 (66.7%) did not have good rapport with the physician/health worker providing them with ARVs, 30 (50%) sometimes found HIV medicines at the health facility. However, 36 (60%) received patient education regarding the goals of adherence.

In conclusion, the researcher noted that respondents faced various socio economic, drug related and health facility factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients. The key recommendations included provision of more support in the communities, health educating patients about the potential side effects of drugs, ensuring ready supply and availability of drugs, improving rapport and communication with patients among others.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Poor drug adherence among Human Immunodeficiency Virus (HIV) patients remains a global public health challenge. Adherence is the degree to which a patient correctly follows medical advice and most commonly, it refers to medication, or drug adherence such as Anti Retro Virals (ARVs) (Kipsang et al, 2018)). Patients who do not follow the treatment schedule and drug regimens prescribed to them by physician can be described as non-compliant or non-adherent (Abdulai et al, 2022).

Anti Retrovirals (ARVs) have long been part of the standard care for people living with advanced HIV disease in industrialized countries, where it is primarily used to prevent illnesses such as Pneumocystis jiroveci pneumonia (PCP) and toxoplasmosis, while studies have also shown that ARVs prevent infections and prolong life in resource-limited settings (Mukosha et al., 2020).

Globally, adherence to ART in low-resource settings has been shown to be similar or even higher than that in the U.S. and Europe as patients are eager and able to take medications regularly if care is accessible (Izudi et al, 2018). Thus, when ART programs scale up, these structural barriers must be addressed if adherence to medication is to be maintained (Ridgeway et al, 2018).

In Sub Saharan Africa, poor drug adherence is a common phenomenon in chronic illnesses including HIV. However, failure of patients to comply with the treatment is a major problem in cases of HIV patients. Estimates of non-adherence ranges between 4% and 92% revealed that in African countries, the contributory factors associated with drug adherence among HIV positive patients include pill burden and medication fatigue, lack of adequate health care

facilities, long distance to health centers and facilities, patient and health worker-related factors (Hennink et al., 2021).

In East African countries, poor adherence to ART remains prevalent, for instance, in Kenya, a study reported that drug adherence among HIV positive adults from two sites in Mombasa and Nairobi ranged between 55% - 72%. The factors associated with drug non-adherence among HIV positive patients include knowledge deficit, misperceptions and the gradual/chronic nature of the condition/disease coupled with lack of support and drug shortages among others (Isabirye et al., 2021).

In Uganda, non-adherence to ART among HIV positive patients remains prevalent. For example, a study done in Kabale district revealed that drug adherence remains poor at 23 – 40% while another study by Nasuuna et al, (2018) reported drug adherence ranging from 29 – 53%. The major factors associated with poor drug adherence among HIV positive patients included medication fatigue, pill burden, fear of unpleasant drug side effects including confusion and forgetfulness among others (Kasande, et al., 2022).

1.2 Problem Statement

Adherence is a complex health behavior that is influenced by the drug regimen, patient and family factors, and patient-provider relationship (Murungi et al., 2022). The limited availability of once- daily and single-tablet regimens and palatable formulations is especially problematic. Health Management Information System Records (2022) of the ART Clinic at Kiswa Health Centre III. In August 2019, out of 285 patients registered at the clinic, 89 defaulted, in February, out of 223 patients registered, 71 defaulted, in March, out of 332 patients registered, 68 defaulted while in April, out of 134 patients registered, 56 defaulted their treatment as measured by self-report, clinic-based pill counts and electronic cap methods, respectively (A quarterly report of Kiswa Health Centre III, 2022).

However, patients with low ARV adherence are prone to a number of health complications. In March 2022 in Kiswa Health Centre III, out of the 332 patients 35 (7.7%) were diagnosed with mental disorder, 21 (48.7%) had frequent lapses of malaria and 66 (24.9%) had respiratory complications. This could be attributed to low immunity due to non-adherence to ARVs (A quarterly report of Kiswa Health Centre III, 2021).

Despite increased expenditure on purchase of ARVs, giving HIV/AIDS health education to patients in the health care facilities and over the media, adherence to ARVs among patients is still very low. Key issues arising are low adherence to antiretroviral therapy while AIDS complications prevalence is rising. Unfortunately, there is hardly any document on the factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III, Kampala District. There is therefore an urgent need to determine the factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III, Kampala District hence this study.

1.3 Purpose of the Study

The purpose of this study was to analyze the factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic in Kiswa Health Centre III, Kampala District so that measures could be developed to improve drug adherence among HIV positive patients.

1.4 Specific Objectives

1) To determine the social economic factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III.
2) To assess the drug related factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III.
3) To identify the health facility factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III.

1.5 Research Questions

1) What are the social economic factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III?
2) What are the drug related factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III?
3) What are the health facility factors affecting adherence to anti-retroviral therapy (art) among HIV infected clients reporting for ART clinic at Kiswa Health Centre III?

1.6 Justification of the Study

The study generated information about the factors associated with drug adherence among HIV positive patients. This could assist the administration of Kiswa Health Centre III to come up with interventions such as CNE to improve their adherence to ART.

In presenting the factors associated with drug adherence among HIV positive patients, the study could assist the Ministry of Health as well as the District Health Officer (DHO) to come up with recommendations to improve adherence to ART.

The study could benefit Nurses at Kiswa Health Centre III as they identified the current factors associated with drug adherence among HIV positive patients which would assist health workers to come up with local measures to improve adherence.

The study could also benefit HIV/AIDS patients at Kiswa Health Centre III, various interventions which enhance adherence to ART such as on-going counseling and monitoring were implemented.

The results from this study stimulated further research about the factors associated with drug adherence among HIV positive patients.

The study will help the researcher in accomplishing the Degree as it was a partial requirement to be fulfilled for the award of Bachelors in Nursing Science.

1.7 Scope of the Study

1.7.1 Content Scope

The study focused only on the factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic.

1.7.2 Geographical Scope

The study was carried out at Kiswa Health Centre III for easy accessibility and better research results. This study area was chosen because it was well known and therefore a good representative for other health institutions in the country.

1.7.3 Period Scope

The study was conducted from August 2022 to November, 2023.

1.8 Conceptual Framework

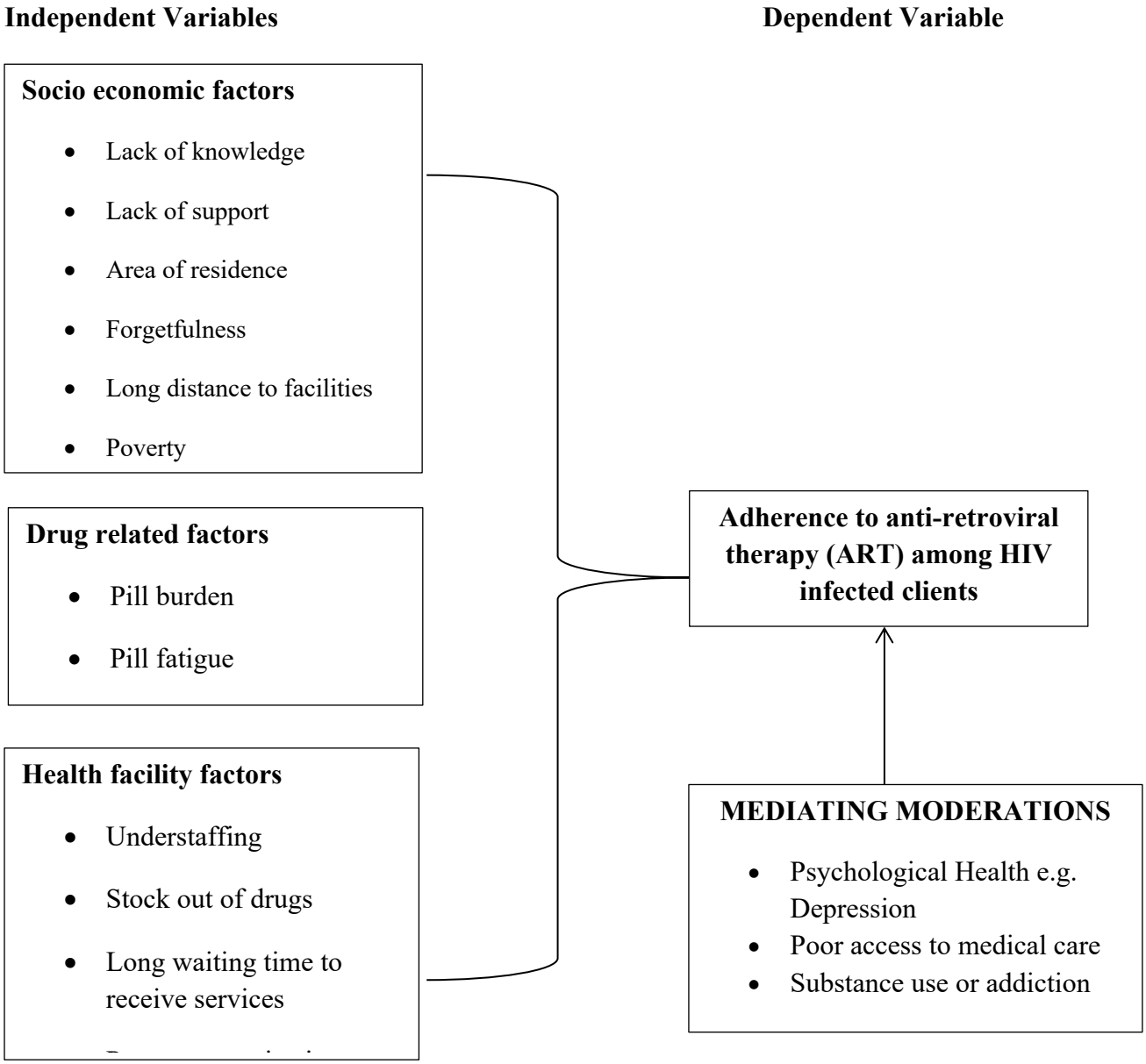


Fig 1: Conceptual framework

Source: Adapted from Abdulai et al, (2022) and modified by the researcher

From the conceptual framework above, it could be noted that adherence to anti-retroviral therapy (ART) among HIV infected clients was influenced by various factors including drug related factors, socio economic and health facility factors among which included pill burden, pill fatigue, fear of side effects, lack of knowledge, lack of support, area of residence,

forgetfulness, long distance to facilities, poverty, unemployment, level of education, marital status, understaffing, stock out of drugs, long waiting time to receive services as well as poor communication between staff and patients.

CHAPTER TWO: LITERATURE REVIEW

2.1 Social economic factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic

Azia, et al., 2021) study about the role of religious beliefs on antiretroviral treatment adherence among Pentecostal Christians in sub-Saharan Africa: a scoping review protocol reported that level of education is associated with adherence to ART treatment. Findings show that clients with grade 1-6 level of education were less likely to report adherence compared to those who had tertiary level of education.

According to Wadunde et al, (2018) study about the factors associated with adherence to antiretroviral therapy among HIV infected children in Kabale district, Uganda: A cross sectional study found out that, respondents who were older were more likely to adhere to ART as compared to younger respondents. Adolescents above 20 years were more adherent than younger adolescents because they were old enough to know how to manage their life and had children whom they wanted to care about so that they also grow.

In a study by Puleh & Namutebi (2023) study about knowledge and perceptions of primary healthcare providers towards integration of antiretroviral therapy (ART) services at departmental levels at selected health facilities Lira district, Uganda revealed that religious beliefs were found to highly hinder adherence to ART among adolescents living with HIV. It was found that respondents who had a belief that ART has God's blessings were more likely to adhere to ART treatment while adolescents who had a belief that accepting God and enough were less likely to adhere to ART treatment.

Similar results were reported by Adeniyi et al, (2018) about the factors affecting adherence to antiretroviral therapy among pregnant women in the Eastern Cape, South Africa who found

out that forgetfulness to take or collect pills from the ART clinic was highly associated to lack of support to be remaindered or encouraged to adhere to ART. This was more prevalent among respondents who were singles or had lost partners due to AIDS.

In a study about research to improve differentiated HIV service delivery interventions: learning to learn as we do revealed that factors affecting adherence to antiretroviral therapy among adult patients included area of residence, lack of support as well as long distances to health facilities to fetch drugs among others (Geng & Holmes, 2019).

Kasande et al., 2022) study about experiences and perceptions on community client-led ART delivery (CCLADS) model of antiretroviral (ART) delivery: patients' and providers' perspectives in south western Uganda reported that some of the major factors affecting adherence to ART among HIV positive patients included lack of community support or peer groups as well as the type and quality of relationships they had with the people they stayed with at home.

Opara et al, (2022) study about the factors affecting adherence to anti-retroviral therapy among women attending HIV clinic of a tertiary health institution in South Eastern, Nigeria revealed that, adolescents who never stayed with their biological parents were less likely to adhere to ART treatment as compared to adolescents who stayed with their parents. This was because the former were exposed to mistreatment and abuse. Findings showed that the most annoying incidents were being insensitive that some family members publicly disclosed the HIV status of the adolescents living with HIV before their peers which demoralized them. This discouraged them to take their medication as they were supposed to do it thus had poor drug adherence.

A study about HIV treatment and care of adolescents: perspectives of adolescents on community-based models in northern Uganda revealed that, lack of social support from people adolescents lived with contributed to non-adherence to ARV treatment among adolescents. Inadequacy of social support was reflected in failure of family members to always remind the patient to take his or her drugs in time, discrimination by family members and friends which eventually led to stigma among patients. It was due to this laxity that adolescents could not even go to the clinic to access services.

A study by Kizito & Sabiti (2021) about the factors associated with uptake of community client-led ART delivery model at Mulago adult HIV clinic at Mulago National referral hospital found out that forgetting to take the pills was one of the major factors for missing pills thus poor adherence. This was more prevalent among respondents who were not staying with a companion to remind them of taking their drugs or assist them to collect them from the ART clinic on appointment days in case they were busy or weak.

A study by Kipsang et al, (2018) about self-reported adherence to antiretroviral treatment and correlates in Hunan province, the People's Republic of China, findings reveal that skin disfiguration was associated with increased adherence to ART therapy among patients. Given that the patients feared to be discriminated and excommunicated by their peers they thought that not taking their medication will help them.

In a study carried out by Nasuuna et al, (2018) about low HIV viral suppression rates following the intensive adherence counseling (IAC) program for children and adolescents with viral failure in public health facilities in Uganda, it was found out that patients who used illicit drugs were less likely to adhere to ART treatment as compared to those who never used illicit drugs. Findings showed that, patients who took less alcohol in the past week before the

study and less drugs in the previous three months were more likely to adhere to ART treatment as compared to their counterparts who had used more of them. Higher adherence was found among patients who never took any illicit drugs as compared to those who used them.

A study titled leaving no man behind: how differentiated service delivery models increase men's engagement in HIV care showed that the diseases stage was associated adherence to ART treatment to the disease stage. Findings revealed that patients in WHO stage III/IV were more likely to adhere to treatment compared to their counterparts who were in lower stages. This was associated to the fact that relatively healthy adolescents were reluctant about taking their medications because most of them perceived it an inconvenience since they were not feeling bad (Mukumbang, 2021).

A study cross sectional study on the factors associated with adherence to antiretroviral therapy among HIV infected children in Kabale district, Uganda adherence was higher among families with smaller number of members as compared to those with many members (Wadende et al., 2018). The difference was that, in a study carried out in Kabale larger families had poor adherence due to need of labour to work in agriculture to produce food for the family while in the present study larger families prioritized resources to feeding.

2.2 Drug Related Factors Affecting Adherence to Anti-Retroviral Therapy (ART) among HIV Infected Clients Reporting for ART clinic

In a study about the interventions to improve antiretroviral therapy adherence among adolescents in low- and middle-income countries: A systematic review of the literature reveal that availability of drugs is influenced by structural factors that may not be directly related to patient or medication. Results showed that limited availability and accessibility to

antiretroviral medications and health care facilities for diagnosis was responsible for poor adherence to ART treatment (Ridgeway et al,2018).

A cross sectional study by Okawa et al, (2018) about psychological well-being and adherence to antiretroviral therapy among patients living with HIV in Zambia found out that patients who had been on ART for more than two years were non-adherent as compared to those who had just been initiated on ART. This was associated to complacency patients developed overtime that they no longer followed the strict regimen. This was partly because that over time family members who had initially played a supportive role in helping patients take their pills assumed that they had become used and did not make strict follow up thus decreased adherence.

Mukumbang, N et al.,(2022) study about comparing patients' experiences in three differentiated service delivery models for HIV treatment in South Africa reported that medication related factors that promote adherence entails prescription of regimens that are simple to take, with minimal side-effects, medication with no food restrictions and prevention of drug stock outs. Among some of the factors that were seen to influence adherence were issues related to size of pill, number of pills, side-effects, food restrictions as well as dosing times had a negative influence on adherence. In addition to the number of pills, antiretroviral treatment users are expected to take their doses at the same regular intervals for life and follow dietary requirements which might not be an easy task.

A study about a mixed-methods evaluation of the uptake of novel differentiated ART delivery models in a national sample of health facilities in Uganda, it was found out that respondents who were on TB drugs had challenges with early ART where patients were not ready to start life-long ART and feared the potential for immune reconstruction inflammatory

syndrome. They revealed that most of the patients had a challenge of increased pill burden and overlapping drug toxicities (Zakumumpa et al., 2021).

A study by Isabirye et al.,2021) about the barriers and facilitators of art adherence among HIV Positive patients in community client-led art delivery groups at lira regional referral hospital reported that factors affecting adherence to ARVS among adult HIV positive patients was fear of the side effects caused by the drugs.

A study carried out in South Africa, on the factors affecting adherence to antiretroviral therapy among pregnant women in the Eastern Cape, South Africa it was found out that adolescent who took illicit drugs were less likely to adhere to ART treatment because they feared to face health care providers when they were either drug or their blood could test positive for drugs (Adeniyi et al., 2018).

In another study by Hennink & Kaiser (2021) about sample sizes for saturation in qualitative research: a systematic review of empirical tests reported that a number of respondents reported side effects that brought challenges with medication taking. The most reported challenges in the past year were gastrointestinal and neurologic effects while on more modern ART regimens. Respondents who never got advice from health care providers had lower adherence as compared to ones who got advice from health care providers.

A study by Isabirye et al, (2023) about the factors Influencing ART Adherence Among Persons Living with HIV Enrolled in Community Client-Led Art Delivery Groups in Lira District, Uganda: A Qualitative Study revealed that pill burden as well as medication fatigue affected adherence to ARVS among HIV positive patients.

2.3 Health facility factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic

Kariminia et al., (2018) study about mortality and losses to follow-up among adolescents living with HIV in the IeDEA global cohort collaboration, revealed that non adherence to ART treatment was associated with transportation costs. Findings showed that, most of the drug collection centres were distantly located from adolescent's homes yet most of adolescents living with HIV were from low income earning families.

A study by Weissinger et al., (2021) about expert client service delivery practices among adolescents living with HIV in Eswatini: a thematic analysis, it was found out that poor supply or unavailability of ARVs was associated with poor adherence to ART treatment. Long distance travelled to the health care facility negatively influence adherence to ART treatment because most of the adolescents could not afford transport fares to drug collection centres.

Izudi et al, (2018) study about retention of HIV-Positive Adolescents in Care: A Quality Improvement Intervention in Mid- Western Uganda, it was found out that, in areas where ARVS/ART services were available, adolescents who had routine education and sensitization about ART were more adherent to ART as compared to those who were not health educated.

In a study carried out by Murungi, et al., (2022) about the role of religious leaders on the use of HIV/AIDS prevention strategies among young people (15–24) in Lira district, Uganda reported that adherence to ART treatment was associated with the waiting time for the services at the health facility by adolescents who had gone to collect the drugs. Findings showed that waiting for more than 10 hours in a hospital setting to access ART treatment, reduced clinic attendance and eventually led to poor drug adherence.

A study by Kintu et al., (2021) about exploring drivers and barriers to the utilization of community client-led ART delivery model in South-Western Uganda: patients' and health workers' experiences reported that factors affecting adherence to ART included inadequate supervision and monitoring by health workers as well as long waiting time to receive services and ARVs.

A study carried out by Ridgeway et al., (2018) interventions to improve antiretroviral therapy adherence among adolescents in low- and middle-income countries: a systematic review of the literature reported lack of privacy and confidentiality at clinics and waiting areas gave great courage to patients to freely seek ART services. Furthermore, results show that patients are less likely to miss appointments if they are attended to within a reasonable time.

Similarly, Nasuuna, et al., (2018) study revealed that patients who experienced long waiting hours were discouraged from going to the clinics for their monthly reviews and refill. Waiting for long hours is stressful and sometimes it can be worsened by poor interpersonal communication between patients and health care providers, where patients were sometimes asked to sit down on the floor when benches were all occupied. Patients who had to wait for more than three hours before they were served with drugs were less likely to come back for the next appointment thus poor adherence.

CHAPTER THREE: METHODOLOGY

3.1 Study Design

A descriptive and cross-sectional, employing quantitative data collection methods were used in the study. The design was descriptive as it described the data as it was without any changes. It was a cross sectional type of design because it involved collection of data from a single point in time and from a group of respondents whose characteristics such as age, level of education, number of children and marital status were described.

3.2 Study Setting and Rationale

Kiswa Health Centre III in Kampala District will be the study setting for this study. The health centre is located in Nakawa division, Kampala district. The health centre offers many health care services including immunization, child health services, HIV/AIDS management services, general patient management, laboratory services, nutrition services, antenatal, maternity and post-natal services, EMTCT program as well as RCT services among many others. The study area was selected because the problem of poor adherence to ART had been on the ground.

3.3 Study Population

Both male and female HIV positive patients attending ART clinic at Kiswa Health Centre III were included in the study.

3.3.1 Sample Size Determination

The sample size of male and female HIV positive patients attending ART clinic at Kiswa Health Centre III to participate in this study, was determined by the statistical formula of Keish and Leslie (1965)

$$n = \frac{Z^2 p\,(1-P)}{d^2}$$

Where n is the sample size

Z is the standard normal deviation at 95% confidence level (i.e. 1.96)

P is the proportion of target population (which is 50% or 0.5)

d is the acceptable degree of error (in this case 5% or 0.05)

Since the total population of respondents involved is less than 10,000 the following formulae will apply.

Sample size estimation (*nf*) is calculated as follows;

nf = the desired sample size (when the population is less than 10,000)

n = the desired sample size (when the population is more than 10,000)

N = the estimate of the population size

n*f* = n

N = 33 (Average number of male and female HIV positive patients attending ART clinic at Kiswa Health Centre III)

$$nf = \frac{n}{1 + \frac{n}{N}} = \frac{384}{1 + \frac{384}{33}} = \frac{384}{1 + 5.5}$$

$$= \frac{384}{6.5} = 59.07 \approx 60 \text{ respondents}$$

Therefore, the sample size was 60 respondents.

3.3.2 Sampling Procedure

Simple random sampling procedure was used to select the required number of HIV positive patients for the study at Kiswa Health Centre III. In this procedure, the researcher selected patients that have come for ART services. This continued until the total number of respondents to be interviewed per day was achieved. The researcher sampled 10 respondents per day for a total of 60 respondents for 6 days.

3.3.3 Inclusion Criteria

Male and female HIV positive patients attending ART clinic at Kiswa Health Centre III who were available at the ART clinic and were willing to voluntarily consent to participate in the study were included in the study.

3.4 Definition of Variables

The independent variable for the study included:

Socio economic factors, Drug related factors and Health facility related factors

The Dependent Variables for the study included:

Adherence to anti-retroviral therapy (ART) among HIV infected clients

3.5 Research Instruments

Data was collected using an approved questionnaire which consisted of both open and closed ended questions. This tool was selected because the study involved both literate and illiterate respondents who were thus unable to read, write and understand English used to develop the questionnaire.

3.6 Data Collection Procedure

Before approaching and collecting data from respondents at the ART clinic, the researcher was accompanied and introduced to the respondents by the in-charge of the ART clinic and the researcher explained the purpose of the study. The researcher administered questionnaires to respondents at the ART clinic. This improved efficiency and confidentiality during data collection. The questionnaire was pre tested among 6 male and female HIV positive patients attending ART clinic at Mengo Hospital to help the researcher to determine the accuracy, reliability and relevancy of the tool before using it for data collection. The researcher interviewed 10 patients per day for six days for a total of 60 respondents.

3.6.1 Data Management

Data management included data editing before leaving the area of study to ensure that there were no mistakes or areas left blank, and any found were corrected before leaving the area of study. The researcher stored the collected data under lock and key and it was only accessible by the researcher.

3.6.2 Data Analysis and Presentation

The collected data was first analyzed by the use of Statistical Package for Social Scientists (SPSS) and tallying, after which the researcher presented the data in tables, graphs and pie charts generated by Microsoft Excel.

3.7 Ethical Considerations

A letter of introduction was obtained from King Caesar University introducing the researcher to the administration of Kiswa Health Centre III and seeking permission to carry out the study. After permission was granted, the administration introduced the researcher to the in-charge of the ART clinic who hence introduced the researcher to the respondents. Respondents were assured of maximum confidentiality and only numbers instead of names were used to identify the respondents. The study only commenced after the objectives of the study had been well explained to participants and they had consented to participate in the study.

3.8 Limitations of the Study

The researcher encountered financial constraints in gathering information from the internet and libraries and printing and transport costs. The researcher overcame this limitation by drawing up a budget which was strictly followed to utilize the available means.

The researcher also encountered difficulty in getting the required information from the respondents for whatever reason. The researcher overcame these limitations by promising and ensuring maximum confidentiality of the identities of the respondents as well as information given.

3.9 Dissemination of Results

The results were forwarded to King Caesar University for examination purposes and to enrich the university library, a copy was submitted to Kiswa Health Centre III for actions as per the recommendations while the researcher also retained a copy for ownership and future reference.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Demographic and Social Characteristics

The interview guide included some key demographic and social characteristics such as age, gender and marital status, level of education, occupation and religion. The demographic information was assessed to find out its relationship with the factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic in Kiswa Health Centre III, Kampala District. The results were presented as follows.

Table 1: Distribution of Respondents by Age **n=60**

Responses	**Frequency**	**Percentage (%)**
18 – 25 years	16	26.7
26 – 35 years	24	40
36 – 45 years	12	20
46 years and above	8	13.3
Total	**60**	**100**

Results showed that 24 (40%) respondents were in the age range of 26 – 35 years, followed by 16 (26.7%) who were in the age range of 18 – 25 years, 12 (20%) were in the age range of 36 – 45 years while the least 8 (13.3%) were 46 years and above.

Table 2: Distribution of Respondents by Gender **n=60**

Gender	Frequency	Percentage (%)
Male	30	50
Female	30	50
Total	**60**	**100**

Half of the respondents 30 (50%) were males and half 30 (50%) were females.

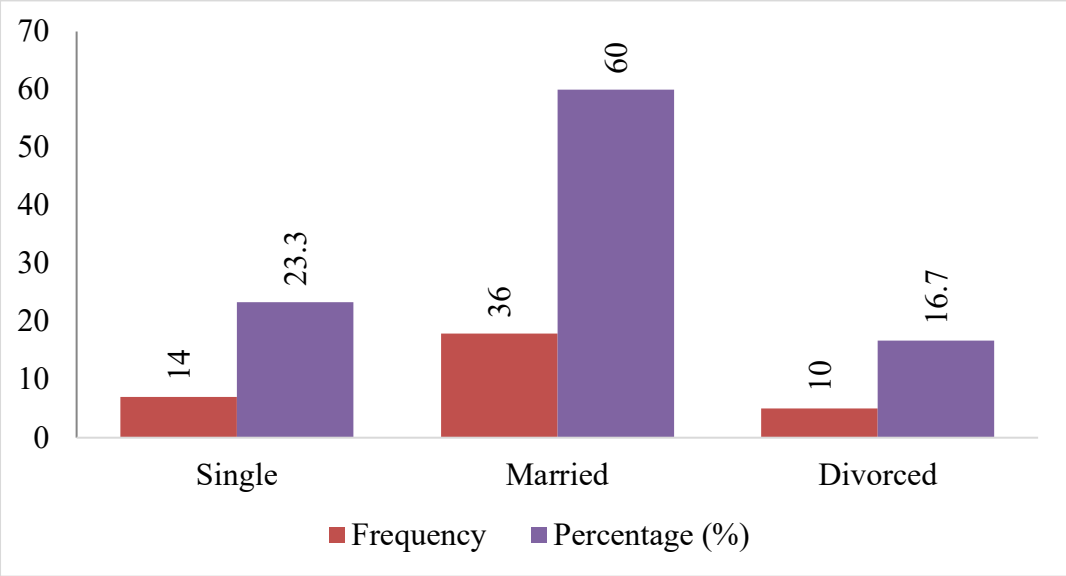


Figure 1: Distribution of Respondents by Marital Status **n=60**

Results showed that 36 (60%) respondents were married, followed by 14 (23.3%) who were single while the least 10 (16.7%) were divorced.

Table 3: Distribution of Respondents by Level of Education **N=60**

Level of education	Frequency	Percentage (%)
No formal education	12	20
Primary	30	50
Secondary	8	13.3
Tertiary	10	16.7
Total	**60**	**100**

Half of the respondents 30 (50%) had attained primary level education, followed by 12 (20%) who had not attained any formal education, 10 (16.7%) had attained tertiary level education while the least 8 (13.3%) had attained secondary level education.

Table 4: Distribution of Respondents by Occupation n=60

Occupation	Frequency	Percentage (%)
House wife	14	23.3
Professional	6	10
Self employed	16	26.7
Peasant farmer	24	40
Total	**60**	**100**

Results showed that 24 (40%) respondents were peasant farmers, 16 (26.7%) were self-employed, 14 (23.3%) were house wives while the least 6 (10%) were professionals.

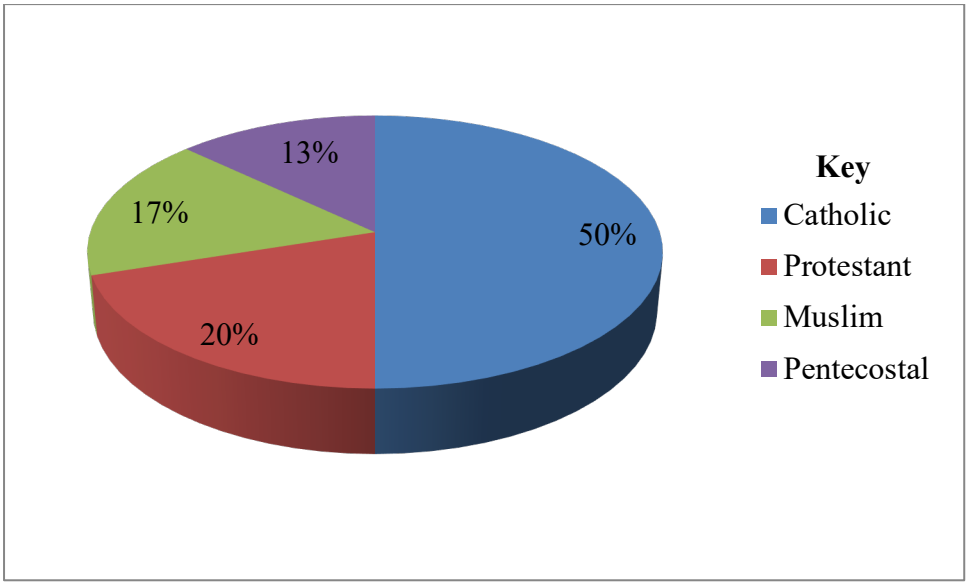


Figure 2: Distribution of Respondents by Religion n=60

Half of the respondents 30 (50%) were Catholic, followed by 12 (20%) who were Protestant, 10 (17%) were Muslim, while the least 8(13%) were Pentecostal.

4.2 Socio Economic Factors Affecting Adherence to Anti-Retroviral Therapy (ART) Among HIV Infected Clients

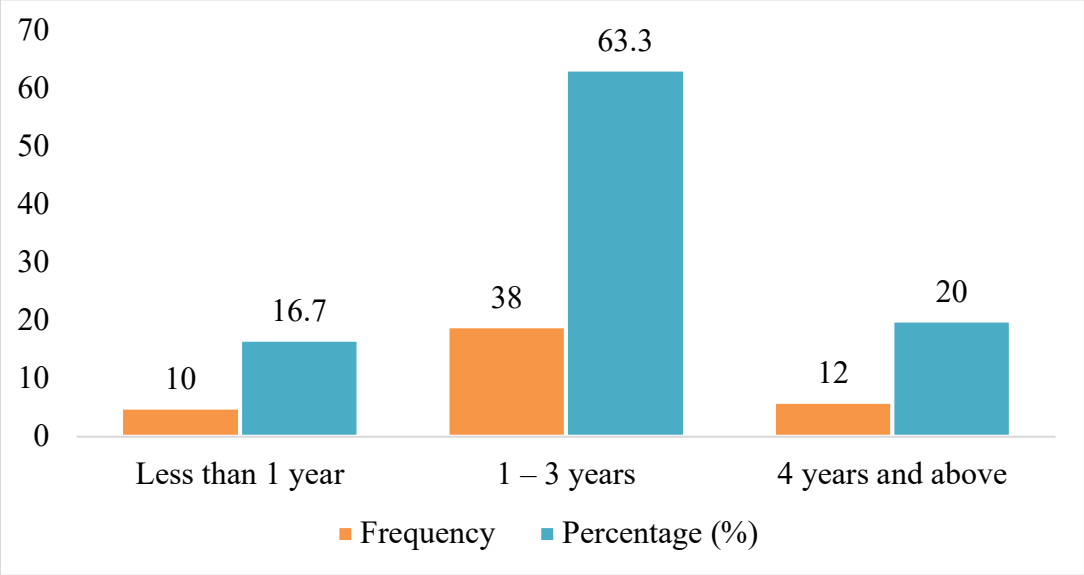


Figure 3: Duration of Taking ARVs **n=60**

Majority of respondents 38 (63%) had been taking ARVs for 1 – 3 years, followed by 12 (20%) who had been taking for 4 years and above while the least 10 (17%) had been taking for less than 1 year.

Table 5: Whether Respondents had Problems Taking the Drugs **n=60**

Responses	**Frequency**	**Percentage (%)**
Yes	60	100
No	0	0
Total	**60**	**100**

All of the respondents 60 (100%) reported facing problems in taking the drugs.

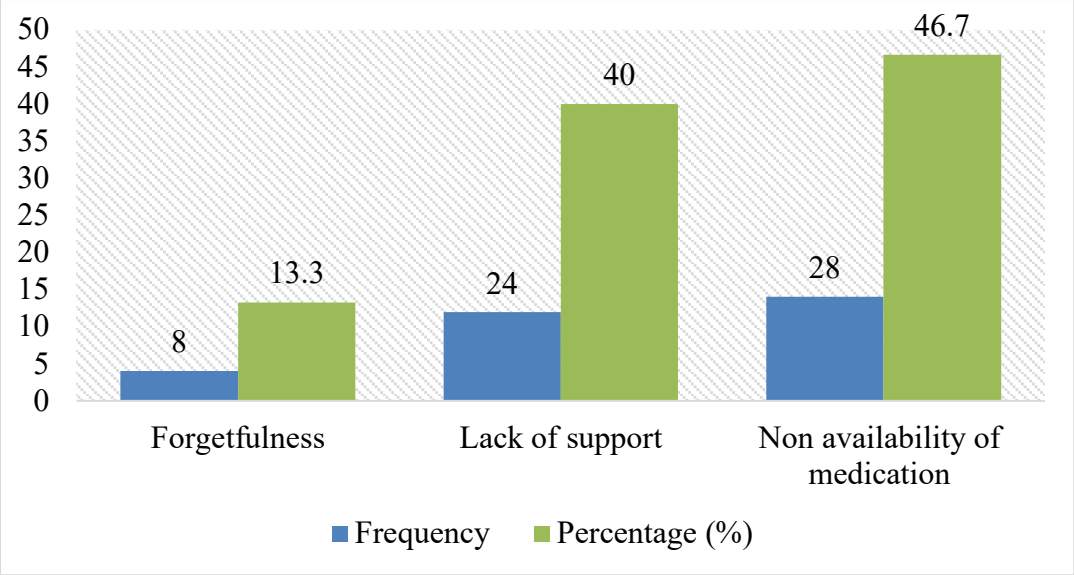


Figure 4: Problems Respondents Faced in Taking ARV Drugs n=60

Findings showed that 28 (46.7%) respondents reported non availability of medication as a problem they faced in taking the ARVs, followed by 24 (40%) who reported lack of support while the least 8 (13.3%) reported forgetfulness.

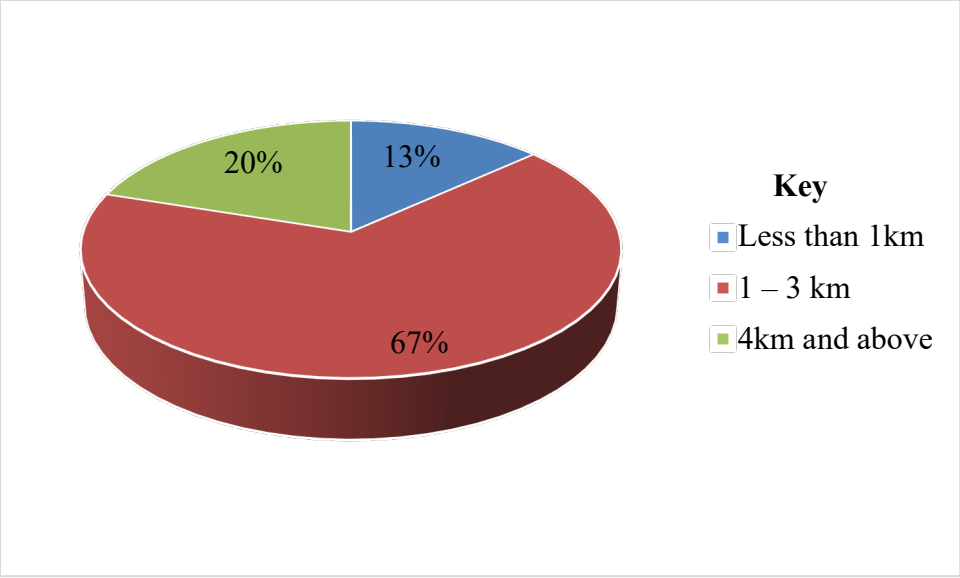


Figure 5: Distance to Nearest Health Facility Offering ARVs n=60

Most respondents 40 (66.7%) resided 1 – 3 km away from the nearest health facility offering ARVs, followed by 12 (20%) resided 4km and above while the least 8 (13.3%) resided less than 1km away from the nearest health facility offering ARVs.

Table 6: Amount of Money Spent on Transport to Health Facility to Fetch ARVs n=60

Amount	Frequency	Percentage (%)
Less than 1000shs	6	10
1000 – 5000shs	40	66.7
5000shs and above	14	23.3
Total	**60**	**100**

Results showed that most respondents 40 (66.7%) spent between 1000 – 5000shs on transport to the health facility to fetch ARVs, followed by 14 (23.3%) who spent 5000shs and above while the least 6 (10%) spent less than 1000shs.

Table 7: Whether ARVs were Provided Free of Charge at the Hospital n=60

Responses	Frequency	Percentage (%)
Yes	60	100
No	0	0
Total	**60**	**100**

All of the respondents 60 (100%) reported that ARVs were provided free of charge at the hospital.

Table 8: Availability of Community/peer Support Groups to Encourage and Motivate Respondents to take ARVs n=60

Responses	Frequency	Percentage (%)
Yes	20	33.3
No	40	66.7
Total	**60**	**100**

Majority of respondents 40 (66.7%) reported not having community/peer support groups to encourage and motivate respondents to take ARVs while the least 20 (33.3%) had community/peer support groups.

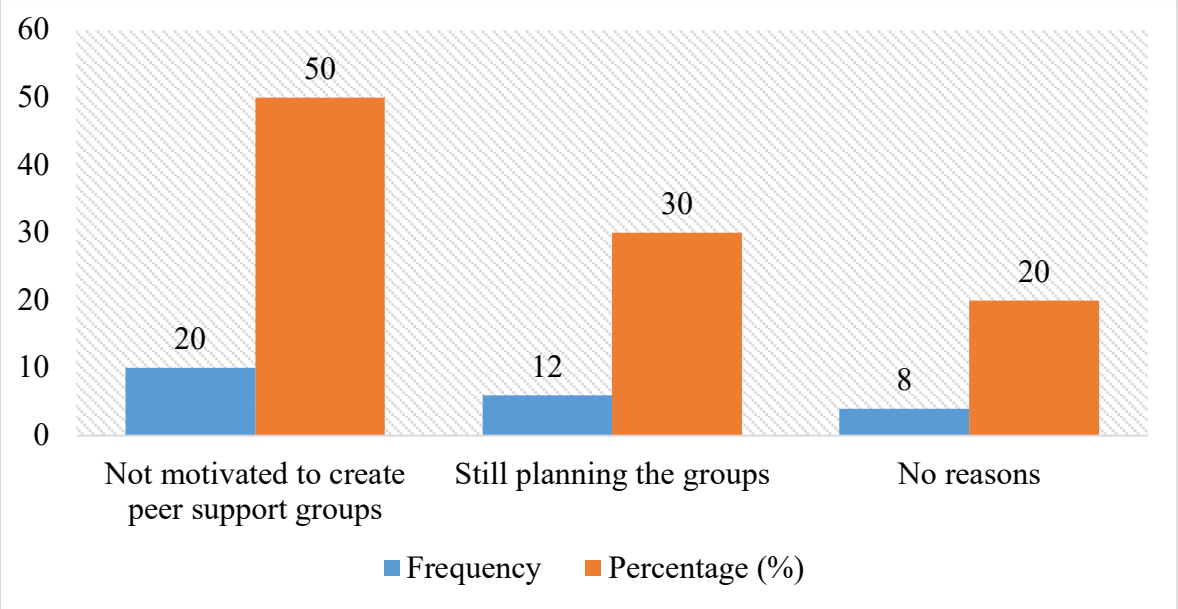


Figure 6: Reasons for Lack of Community/Peer Support **n=40**

Half of respondents 20 (50%) were not motivated to create peer and community support groups, followed by 12 (30%) who were still planning it while the least 8 (20%) did not have any reasons.

4.3 Drug Related Factors Influencing Adherence to ARVS Among HIV Positive Patients

Table 9: Distribution of Respondents who had ever Abandoned Their Medication n=60

Responses	**Frequency**	**Percentage (%)**
Yes	60	100
No	0	0
Total	**60**	**100**

All 60 (100%) of the respondents had ever missed their dose.

Table 10: Reasons for Abandoning their Medication n=60

Reasons	Frequency	Percentage (%)
Unavailability of medication	20	33.3
Forgetfulness	16	26.7
Side effects	12	20
Lack of support	8	13.3
Had nothing to eat	4	6.7
Total	**60**	**100**

Most respondents 20 (33.3%) had ever abandoned their medication due to unavailability of medication, 16 (26.7%) mentioned forgetfulness, 12 (20%) side effects, 8 (13.3%) lack of support while the least 4 (6.7%) had nothing to eat.

Table 9: Number of Pills Respondents were Supposed to Take Every Day n=60

Number of pills	Frequency	Percentage (%)
1 – 3 pills	20	33.3
4 pills and above	40	66.7
Total	**60**	**100**

Majority 40 (66.7%) of the respondents were supposed to take 4 pills and above every day while the least 20 (33.3%) were supposed to take 1 – 3 pills every day.

Table 9: Distribution of Respondents who Ever Experienced SIDE Effects of Medication n=60

Responses	Frequency	Percentage (%)
Yes	60	100
No	0	0
Total	**60**	**100**

All 60 (100%) of the respondents had ever experienced side effects of medication.

Table 9: Side Effects of Medication Respondents Experienced n=60

Side effects	Frequency	Percentage (%)
Nausea	30	50
Vomiting	20	33.3
Loss of appetite	10	16.7
Total	**60**	**100**

Half 30 (50%) of the respondents had ever experienced nausea as a side effect of the medication, followed by 20 (33.3%) who reported vomiting while the least 10 (16.7%) experienced loss of appetite.

4.3 Health Facility Factors Affecting Adherence to Anti-Retroviral Therapy (ART) among HIV Infected Clients

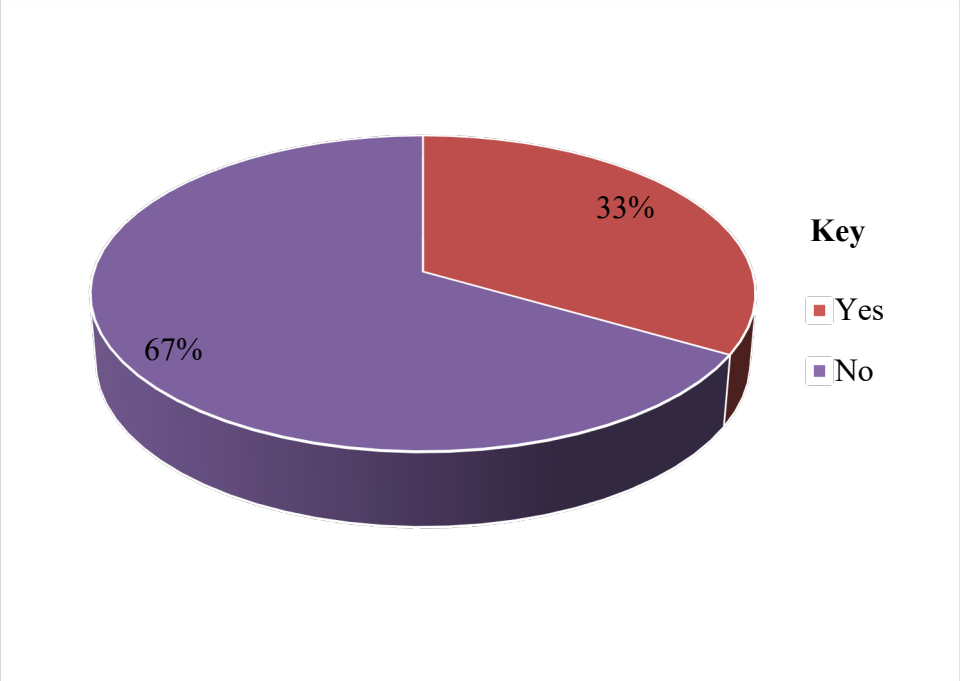


Figure 8: Whether Respondents got Adequate Supervision by Health Workers in the Community n=60

Majority of respondents 40 (67%) did not get adequate supervision by health workers in the community while the least 20 (33%) got adequate supervision.

Table 11: How Regularly Respondents Got Supervision by Health Workers N=20

Responses	Frequency	Percentage (%)
After 3 months	20	100
Once every 6 months	0	0
Total	**20**	**100**

All of the respondents who reported getting supervised by health workers, 20 (100%) said they were supervised after every 3 months.

Table 12: Whether Respondents Had Good Rapport with the Physician/Health Worker Providing ARVs n=60

Responses	Frequency	Percentage (%)
Yes	20	33.3
No	40	66.7
Total	**60**	**100**

Majority of respondents 40 (66.7%) did not have good rapport with the physician/health worker providing them with ARVs while the least 20 (33.3%) had good rapport.

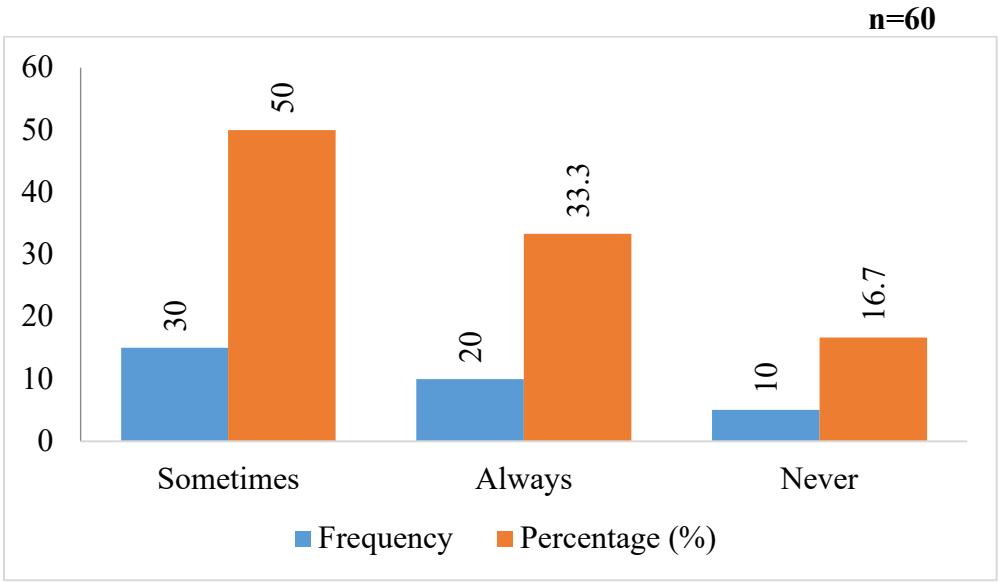


Figure 9: Whether Respondents Always Found HIV Medicines at the Health Facility

Half of the respondents 30 (50%) sometimes found HIV medicines at the health facility, followed by 20 (33.3%) reported that they always found medicines at the health facility while the least 10 (16.7%) never found medicines at the health facility.

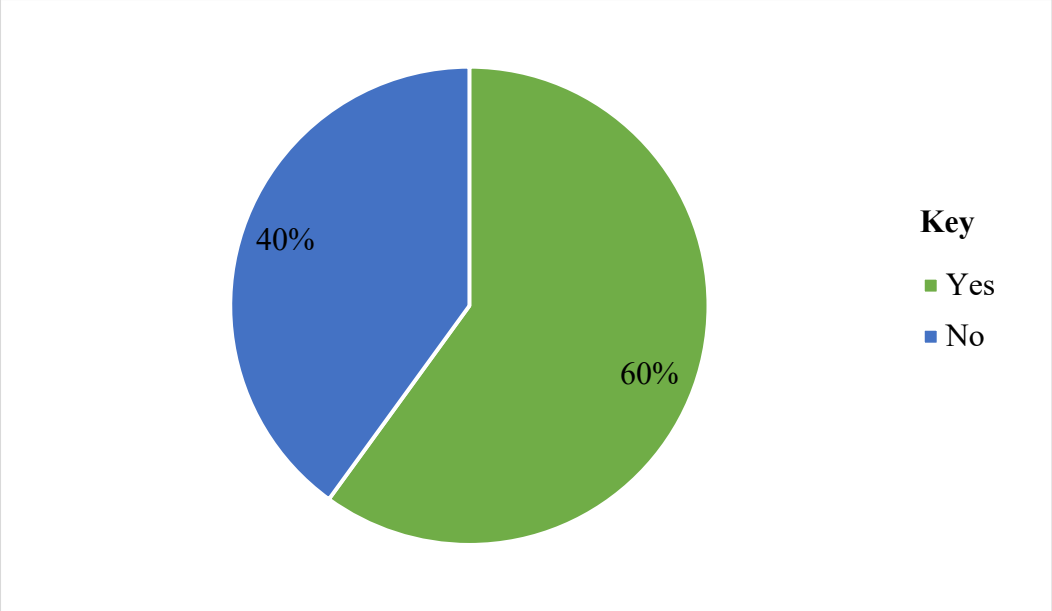


Figure 10: Whether Respondents Received Patient Education Regarding the Goals of Adherence **N=60**

Majority of respondents 36 (60%) received patient education regarding the goals of adherence while the least 24 (40%) had not received any patient education regarding the goals of adherence.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Demographic and Social Characteristics

Results showed that 24 (40%) respondents were in the age range of 26 – 35 years, followed by 16 (26.7%) who were in the age range of 18 – 25 years which showed that most patients who utilized ART and HIV/AIDS services at Kiswa Health Center III were mature and would be aware of the importance of adherence to ART. This study finding was in agreement with Wadunde et al, (2018) whose study about the factors associated with adherence to antiretroviral therapy among HIV infected children in Kabale district, Uganda: A cross sectional study found out that, respondents who were older were more likely to adhere to ART as compared to younger respondents. Adolescents above 20 years were more adherent than younger adolescents because they were old enough to know how to manage their life and had children whom they wanted to care about so that they also grow.

Half of the respondents 30 (50%) were males and half 30 (50%) were females. This was done intentionally to get views on the subject from both men and women and also to avoid bias during the study.

Results showed that 36 (60%) respondents were married which implied that they could count on the physical, emotional and financial support from their partners in ensuring adherence to ARVs. This study finding was in agreement with Adeniyi et al, (2018) whose study about the factors affecting adherence to antiretroviral therapy among pregnant women in the Eastern Cape, South Africa who found out that forgetfulness to take or collect pills from the ART clinic was highly associated to lack of support to be remaindered or encouraged to adhere to ART. This was more prevalent among respondents who were singles or had lost partners due to AIDS.

Half of the respondents 30 (50%) had attained primary level education. This showed that most respondents had attained little or no education, however, this could affect their level of adherence to ARVs as they could not be fully aware of the benefits of adherence to ARVs or the dangers of not adhering to the medication as required by health workers. This study finding was in agreement with Azia et al, (2021) whose study about the role of religious beliefs on antiretroviral treatment adherence among Pentecostal Christians in sub-Saharan Africa: a scoping review protocol reported that level of education is associated with adherence to ART treatment. Findings showed that clients with grade 1-6 level of education were less likely to report adherence compared to those who had tertiary level of education.

Results showed that 24 (40%) respondents were peasant farmers. This implied that since most of the respondents were not involved in income generating activities, they fully relied on their partners for financial upkeep as well as ensuring that they adequately accessed and utilized ART services at Kiswa Health Center III.

Half of the respondents 30 (50%) were Catholic, followed by 12 (20%) who were Protestant, 10 (17%) were Muslim while the least 8(13%) were Pentecostal. This showed that all the respondents belonged to various religious denominations. This hence implied that adherence to ARV drugs could be influenced by religious beliefs about healing through prayer and also especially if there was inadequate patient education about the importance of adherence to ARVs. This study finding was in agreement with a study by Puleh et al, (2023) whose study about knowledge and perceptions of primary healthcare providers towards integration of antiretroviral therapy (ART) services at departmental levels at selected health facilities Lira district, Uganda revealed that religious beliefs were found to highly hinder adherence to ART among adolescents living with HIV. It was found that respondents who had a belief that ART

has God's blessings were more likely to adhere to ART treatment while adolescents who had a belief that accepting God and enough were less likely to adhere to ART treatment.

5.1.1 Socio Economic Factors Affecting Adherence to Anti-Retroviral Therapy (ART) Among HIV Infected Clients

Majority of respondents 38 (63%) had been taking ARVs for 1 – 3 years, followed by 12 (20%) who had been taking for 4 years and above implying that most respondents had been taking ARVs for a considerable time. It also implied that they were the right candidates to respond to questions regarding the factors responsible for poor adherence to antiretroviral therapy among adult clients.

All of the respondents 60 (100%) reported facing problems in taking the drugs and 24 (40%) respondents reported lack of support as a factor associated with non-adherence to antiretroviral therapy among clients. This study finding was in agreement with a study about research to improve differentiated HIV service delivery interventions: learning to learn as we do revealed that factors affecting adherence to antiretroviral therapy among patients included area of residence, lack of support as well as long distances to health facilities to fetch drugs among others (Geng & Holmes, 2019).

Findings showed that 28 (46.7%) respondents reported non availability of medication as a problem they faced in taking the ARVs which was not different from a study about the interventions to improve antiretroviral therapy adherence among adolescents in low- and middle-income countries: A systematic review of the literature reveal that availability of drugs is influenced by structural factors that may not be directly related to patient or medication. Results showed that limited availability and accessibility to antiretroviral medications and health care facilities for diagnosis was responsible for poor adherence to ART treatment (Ridgeway et al,2018).

Results showed that 8 (13.3%) respondents reported forgetfulness which was supported by Adeniyi et al, (2018) whose study about the factors affecting adherence to antiretroviral therapy among pregnant women in the Eastern Cape, South Africa who found out that forgetfulness to take or collect pills from the ART clinic was highly associated to lack of support to be remaindered or encouraged to adhere to ART. This was more prevalent among respondents who were singles or had lost partners due to AIDS.

Most respondents 40 (66.7%) resided 1 – 3 km away from the nearest health facility offering ARVs, followed by 12 (20%) resided 4km and above. This showed that most respondents stayed a considerable distance away from the health facility providing ARVs and it implied that due to the long distance, respondents could, for various reasons fail to fetch ARVs, thus becoming a factor associated with non-adherence to ARVs. This study was not different from a study about research to improve differentiated HIV service delivery interventions: learning to learn as we do revealed that factors affecting adherence to antiretroviral therapy among adult patients included area of residence, lack of support as well as long distances to health facilities to fetch drugs among others (Geng & Holmes, 2019).

Results showed that most respondents 40 (66.7%) spent between 1000 – 5000shs on transport to the health facility to fetch ARVs, followed by 14 (23.3%) who spent 5000shs and above. This showed that since most respondents stayed a considerable distance away from the health facility providing ARVs, it meant that a good sum of money was spent on transport costs and failure to get money for transport meant, failure to fetch ARVs, thus contributing to poor adherence to ARVs. This was in line with Kariminia, & Davies (2018) whose study about mortality and losses to follow-up among adolescents living with HIV in the IeDEA global cohort collaboration, revealed that non adherence to ART treatment was associated with transportation costs. Findings showed that, most of the drug collection centres were distantly

located from adolescent's homes yet most of adolescents living with HIV were from low income earning families.

All of the respondents 60 (100%) reported that ARVs were provided free of charge at the hospital implying that failure of the respondents to adhere to ARVs was not attributed to failure to get the funds to purchase medication as they were provided free of charge at government institutions.

Majority of respondents 40 (66.7%) reported not having community/peer support groups to encourage and motivate respondents to take ARVs which implied that due to the lack of community and peer support groups, adults clients on ARVs were isolated and this could potentially lead to poor adherence to ARVs. This study was in agreement with Kasande, Taremwa & Tusimiirwe (2022) study about experiences and perceptions on community client-led ART delivery (CCLADS) model of antiretroviral (ART) delivery: patients' and providers' perspectives in south western Uganda reported that some of the major factors affecting adherence to ART among HIV positive patients included lack of community support or peer groups as well as the type and quality of relationships they had with the people they stayed with at home.

Half of respondents 20 (50%) were not motivated to create peer and community support groups, followed by 12 (30%) who were still planning it while the least 8 (20%) did not have any reasons. This demonstrated that most respondents still required sensitization and health education about what peer and community support groups could do to help improve adherence to ART by HIV positive clients.

5.1.2 Drug Related Factors Influencing Adherence to ARVS Among HIV Positive Patients

All 60 (100%) of the respondents had ever missed their dose and 20 (33.3%) had ever abandoned their medication due to unavailability of medication, implying that most respondents failed to adhere to the ARVs due to unavailability of medication. This study was in agreement with a study about the interventions to improve antiretroviral therapy adherence among adolescents in low- and middle-income countries: A systematic review of the literature reveal that availability of drugs is influenced by structural factors that may not be directly related to patient or medication. Results showed that limited availability and accessibility to antiretroviral medications and health care facilities for diagnosis was responsible for poor adherence to ART treatment (Ridgeway et al,2018).

Most respondents, 16 (26.7%) mentioned forgetfulness as a reason why they missed their dose which was in agreement with Adeniyi et al, (2018) whose about the factors affecting adherence to antiretroviral therapy among pregnant women in the Eastern Cape, South Africa who found out that forgetfulness to take or collect pills from the ART clinic was highly associated to lack of support to be remaindered or encouraged to adhere to ART. This was more prevalent among respondents who were singles or had lost partners due to AIDS.

Results showed that 12 (20%) respondents reported side effects as a reason they missed their dose which was in agreement with Isabirye & Opii (2021) whose study about the barriers and facilitators of art adherence among HIV Positive patients in community client-led art delivery groups at lira regional referral hospital reported that factors affecting adherence to ARVS among adult HIV positive patients was fear of the side effects caused by the drugs.

A total of 8 (13.3%) respondents reported lack of support as a reason why they missed their dose which was in agreement with Adeniyi et al, (2018) whose about the factors affecting

adherence to antiretroviral therapy among pregnant women in the Eastern Cape, South Africa who found out that forgetfulness to take or collect pills from the ART clinic was highly associated to lack of support to be remaindered or encouraged to adhere to ART. This was more prevalent among respondents who were singles or had lost partners due to AIDS.

Majority 40 (66.7%) of the respondents were supposed to take 4 pills and above every day while the least 20 (33.3%) were supposed to take 1 – 3 pills every day. This study finding was in agreement with a study about a mixed-methods evaluation of the uptake of novel differentiated ART delivery models in a national sample of health facilities in Uganda, it was found out that respondents who were on TB drugs had challenges with early ART where patients were not ready to start life-long ART and feared the potential for immune reconstruction inflammatory syndrome. They revealed that most of the patients had a challenge of increased pill burden and overlapping drug toxicities (Zakumumpa & Ntawiha, 2021).

All 60 (100%) of the respondents had ever experienced side effects of medication and half 30 (50%) of the respondents had ever experienced nausea as a side effect of the medication, followed by 20 (33.3%) who reported vomiting while the least 10 (16.7%) experienced loss of appetite. This study finding was in agreement with Hennink & Kaiser (2021) whose study about sample sizes for saturation in qualitative research: a systematic review of empirical tests reported that a number of respondents reported side effects that brought challenges with medication taking. The most reported challenges in the past year were gastrointestinal and neurologic effects while on more modern ART regimens. Respondents who never got advice from health care providers had lower adherence as compared to ones who got advice from health care providers.

5.1.3 Health Facility Factors Affecting Adherence to Anti-Retroviral Therapy (ART) Among HIV Infected Clients

Majority of respondents 20 (67%) did not get adequate supervision by health workers in the community which implied that since health workers did not provide adequate supervision to patients and they failed to adhere to the medication. This study finding was supported by Kintu & Kyagambiddwa (2021) whose study about exploring drivers and barriers to the utilization of community client-led ART delivery model in South-Western Uganda: patients' and health workers' experiences reported that factors affecting adherence to ART included inadequate supervision and monitoring by health workers as well as long waiting time to receive services and ARVs.

Majority of respondents 40 (66.7%) did not have good rapport with the physician/health worker providing them with ARVs. This implied that the respondents who had good rapport with the physician/health worker providing ARVs could potentially achieve higher rates of adherence to ARVs as good rapport with the physician/health worker had been noted as one of the factors responsible for good level of adherence. This study was in line with Nasuuna, et al., (2018) whose study revealed that patients who experienced long waiting hours were discouraged from going to the clinics for their monthly reviews and refill. Waiting for long hours is stressful and sometimes it can be worsened by poor interpersonal communication between patients and health care providers, where patients were sometimes asked to sit down on the floor when benches were all occupied.

Half of the respondents 30 (50%) sometimes found HIV medicines at the health facility health facility. This demonstrated that the supply of ARVs at the study setting was unreliable or inconsistent and could lead to poor rates of adherence to the ARVs among clients. This study was not different from a study by Ahmed et al, (2021) about expert client service delivery practices among adolescents living with HIV in Eswatini: a thematic analysis, it was

found out that poor supply or unavailability of ARVs was associated with poor adherence to ART treatment. Long distance travelled to the health care facility negatively influence adherence to ART treatment because most of the adolescents could not afford transport fares to drug collection centres.

Majority of respondents 36 (60%) received patient education regarding the goals of adherence implying that since most respondents were aware of the goals and objectives of adherence, they would have added impetus to ensure adherence to ARVs among HIV positive mothers. This study was in line with Izudi et al, (2018) whose study about retention of HIV-Positive Adolescents in Care: A Quality Improvement Intervention in Mid- Western Uganda, it was found out that, in areas where ARVS/ART services were available, adolescents who had routine education and sensitization about ART were more adherent to ART as compared to those who were not health educated.

5.2 Conclusion

The study found out that respondents faced various socio-economic factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients as most 38 (63%) had been taking ARVs for 1 – 3 years, 60 (100%) reported facing problems in taking the drugs, 28 (46.7%) respondents reported non availability of medication, 24 (40%) who reported lack of support, 8 (13.3%) reported forgetfulness, 40 (66.7%) resided 1 – 3 km away from the nearest health facility offering ARVs, 40 (66.7%) spent between 1000 – 5000shs on transport to the health facility to fetch ARVs, 40 (66.7%) reported not having community/peer support groups to encourage and motivate respondents to take ARVs.

The study revealed that respondents had ever faced drug related factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients as all 60 (100%) had ever missed their dose and 20 (33.3%) had ever abandoned their medication due to unavailability of

medication, 16 (26.7%) forgetfulness, 12 (20%) side effects and 8 (13.3%) lack of support while pill burden and fatigue was a also a major factor as 40 (66.7%) respondents were supposed to take 4 pills daily and all 60 (100%) had ever experienced side effects of medication including 30 (50%) nausea and 20 (33.3%) vomiting.

Respondents also faced various health facility related factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients and these included 40 (67%) inadequate supervision by health workers in the community, 40 (66.7%) did not have good rapport with the physician/health worker providing them with ARVs, 30 (50%) sometimes found HIV medicines at the health facility. However, 36 (60%) received patient education regarding the goals of adherence.

5.3 Recommendations

5.3.1 Recommendations to the Ministry of Health

The Ministry of Health should improve upon the available national sensitization programs aimed at sensitizing HIV positive clients on the benefits of ensuring full adherence to ARVs as recommended by health workers.

The Ministry of Health should also endeavor to bring HIV/AIDS care services closer to the clients to reduce on distances covered to get to the health facilities which is also another factor contributing to poor adherence. This could be done through opening up more facilities.

5.3.2 Recommendations for Health Workers at Kiswa Health Center III

Health workers at Kiswa Health Center III should improve upon customer care skills as poor relationships is one of the reported obstacles.

Health workers should initiate and maintain community/peer support groups for HIV patients who receive ARVs at Kiswa Health Center III.

Health workers should always ensure ready availability of ARVs as inability to access ARVs at the health facility is one of the reported factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients.

Health workers should sensitize all clients on the importance of adherence to ARVs.

Health workers should also improve follow ups and supervision of clients on ARVs to ensure adherence as well as ensure that they always supply medication with clear, easy to understand instructions.

The head of department should work in conjunction with the central stores to always place orders for ARVs earlier to prevent stock outs.

Health workers should assist clients on ARVs in the community to form and maintain community peer support groups in an effort to help them adhere to their medication.

5.3.3 Recommendations for Clients on ARVs at Kiswa Health Center III

Clients on ARVs at Kiswa Health Center III should ensure they adhere to their ARVs as this provides many benefits and advantages.

Clients should further endeavor to seek more knowledge about the importance of adherence as well as the potential dangers of poor adherence.

5.4 Implications to the Nursing Practice

The implications of these findings to the nursing practice include the following:

Health workers, especially those working with clients on ARVs at Kiswa Health Center III and any other health care institution should take every opportunity to encourage and motivate clients to ensure full adherence to ARVs as recommended by health workers as this has many benefits for them, their families and community at large.

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APPENDICES

APPENDIX I: CONSENT FORM

I am Nabacwa Agnes Lutaaya a student at King Ceaser University I am doing a research titled **Analysis of factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting at ART Clinic in Kiswa Health Centre III, Kampala District**"

PURPOSE

To assess the **factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting at ART Clinic in Kiswa Health Centre III, Kampala District**"

Why such participation has been chosen

Such participation has been considered since these patients need to observe adherence to treatment to ensure they encounter minimal or no opportunistic infections hence longer life.

Procedures

The researcher will introduce herself to the participant and explain to him/her about the study. She will give the participant a chance to ask questions if any. If the participant accepts to participate in the study, she/he will be requested to sign a consent form and will be given a questionnaire to fill. The interview will take about 25-30 minutes.

Risks

This is academic research which I do not think that has many risks. The only risk i can imagine is time lost by the participant.

Benefit

The findings will sensitize HIV positive clients about factors to observe in drug adherence and thus improve quality of life generally.

Confidentiality

All the information given in the research will be kept confidential; it will only be accessed by an authorized person.

Voluntary participation

You are voluntary free to join the study and withdraw at any time you feel that you cannot continue to be in the study.

Contact person

In case of questions concerning the study, you may contact the researcher Nabacwa Agnes Lutaaya on 0776040672

Statement of consent

I have read the following information or it has been read to me.

I have had the opportunity to ask questions about it and any questions that i have asked have been answered to my satisfaction. I consent voluntarily lo participate as a participant in this research.

Name of participant..... signature of participant.....

Date..... (PARTICIPANT/RESPONDENT)

Name of researcher..... signature of researcher.....

Date..... (RESEARCHER)

APPENDIX II: QUESTIONNAIRE

My name is **Nabacwa Agnes Lutaaya,** a student at King Caesar University. I am carrying out a study to analyze the factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting for ART clinic in Kiswa Health Centre III, Kampala District. You have voluntarily consented to participate in the study and all the information you give will be kept confidential.

Instructions

Please Endeavour to respond to all questions asked

Please answer as accurately as possible to enhance data accuracy and quality

Section A: Demographic characteristics

1) Age
    a) 18 -25 years ☐
    b) 26- 35 years ☐
    c) 36 – 45 years ☐
    d) 46 years and above ☐
2) Gender
    a) Male ☐
    b) Female ☐
3) Marital status
    a) Single ☐
    b) Married ☐
    c) Divorced ☐

4) Level of education

   a) No formal education ☐
   b) Primary ☐
   c) Secondary ☐
   d) Tertiary ☐

5) Occupation

   a) House wife ☐
   b) Peasant farmer ☐
   c) Professional ☐
   d) Self employed ☐

6) Religion

   a) Catholic ☐
   b) Protestant ☐
   c) Muslim ☐
   d) Others specify .....

Section B: Socio economic factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients

7) How long have you been taking ARVs?

   a) Less than 1 year ☐
   b) 1-3 years ☐
   c) 4 years and above ☐

8) Do you have any problem taking the drugs?

   a) Yes ☐
   b) No ☐

9) If yes, which problems?

a) Forgetfulness ☐

b) Lack of support ☐

c) Lack of funds for purchasing the medication ☐

d) Non availability of medication ☐

e) High cost of medication ☐

f) Others

(specify)……

10) Do you have written instructions on how to use all your medication at home?

a) Yes ☐

b) No ☐

11) How far is the nearest health facility/unit where you get ARV from your home?

a) Less than 1km ☐

b) 1-3 km ☐

c) 4km and above ☐

12) How much money do you spend on transport to the hospital to fetch ARV?

a) Less than 1000Shs ☐

b) 1000 – 5000Shs ☐

c) 5000Shs and above ☐

13) Are ARVs provided at the hospital free?

a) Yes ☐

b) No ☐

14) If No, who gives you the money to buy the drugs?.....

15) Are there any community/peer support groups which work to encourage and motivate you to adhere to ARV?

a) Yes ☐

b) No ☐

16) If No, why?.....

17) If yes, which support do you get?.....

Section C: Drug related factors influencing adherence to ARVS among HIV positive patients

18) Have you ever abandoned your medication because of any reason?

a) Yes ☐

b) No ☐

19) If yes, which reason.....

.....

.....

20) How many pills do you take every day?.....

21) Have you ever experienced any side effects of ARVs?

a) Yes

b) No

22) If yes, which ones did you experience?.....

Section D: Health-facility factors influencing adherence to ARVS among HIV positive patients

23) Do you always get adequate supervision by health workers in your community to help you take your medicines?

a) Yes ☐

b) No ☐

24) If yes, how regularly.....

25) Do you have a good rapport with the health worker providing you with ARV?

a) Yes ☐

b) No ☐

26) Do you always find HIV medicines when you come to the facility?

a) Sometimes ☐

b) Always ☐

c) Never ☐

27) Did you receive any patient education regarding the goals of adherence to ARVs?

a) Yes ☐

b) No ☐

Thanks for your cooperation

APPENDIX III: INTRODUCTORY LETTER

KING CEASOR UNIVERSITY

"Moral Rearmament, Wealth Multiplication"

P.O Box 88, Kampala, Plot 30/33 King Ceasor Road, Bunga Hill Main Campus,
Email: amoskalukusu@kcu.ac.ug

DIRECTORATE OF RESEARCH

8th January 2024,

The Director of Heath Services,
Kampala Capital City Authority, (KCCA),
Uganda.

RE: RECOMMENDATION FOR DATA COLLECTION :- ***MS. NABACWA Agness Lutaaya Index No. 2021AP/BNS/1255 Email: agnessnabacwalutaaya@gmail.com Tel: 776-040672***

I write to recommend the above named student who is pursuing a Bachelor of Nursing from King Ceasor University, in Uganda.

MS. Nabacwa Agness Lutaaya is now in her third year of study and now expected to write her research dissertation as part of the requirements for the award of her degree.

She is working on the topic given as follows:

"***Analysis of factors affecting adherence to anti-retroviral therapy (ART) among HIV infected clients reporting at the ART Clinic at Kiswa health Center III, Uganda".***

The purpose of this letter is to request that you allow her undertake data collection from your hospital facility which will assist her to fulfill the requirements of the university.

The results of her research can be shared with you upon the successful completion of her study.

In any correspondence, use the address given herein. Looking forward to hearing from you.

Sincerely,

KING CEASOR UNIVERSITY
0 8 JAN 2024
P.O. BOX 88, KAMPALA
DIRECTORATE OF RESEARCH

Amos Ronald Kalukusu (PhD Fellow, Public Health).
Assoc. Director for Research.
Email: amoskalukusu@kcu.ac.ug Tel: 0781457183

CC: DVC Academic Affairs; Cc: Academic Registrar; Cc: MS. NABACWA Agness Lutaaya

APPENDIX IV: APPROVAL LETTER

KCCA
KAMPALA CAPITAL CITY AUTHORITY
For a better City

DIRECTORATE OF PUBLIC HEALTH AND ENVIRONMENT

16th January, 2024

Ms. Nabacwa Agnes Lutaaya
+256 776040672
Kampala.

RE: PERMISSION TO CONDUCT RESEARCH.

Reference is made to your letter dated 29th August 2023 on the above subject Matter.

This is to inform you that permission has been granted to you to carry out a study titled ***"ANALYSIS OF FACTORS AFFECTING ADHERENCE TO ANTI RETROVIRAL THERAPY(ART) AMONG HIV INFECTED CLIENTS REPORTING AT ART CLINIC IN KISWA HEALTH CENNTRE III, KAMPALA DISTRICT"*** for a period of (02) two weeks from 22nd January, 2024 to 22nd February, 2024.

The permission is granted to you on the following conditions:

1. Participation in your study is voluntary and the informed consent process should be observed at all times.
2. You will provide a report to the office of the Director Public Health and Environment of your findings.
3. You will access information from the in charge of Kiswa Health Centre III.

By copy of this letter, the In-Charge of the above facility and local Council chairperson is requested to render you all the necessary support.

DIRECTORATE OF PUBLIC HEALTH AND ENVIRONMENT
KCCA KAMPALA CAPITAL CITY AUTHORITY
24 JAN 2024

Dr. Sarah Zalwango
AG. DEPUTY DIRECTOR, MEDICAL SERVICES
Copy; In – charge Kiswa Health Centre III
Local Council 1 Chairperson

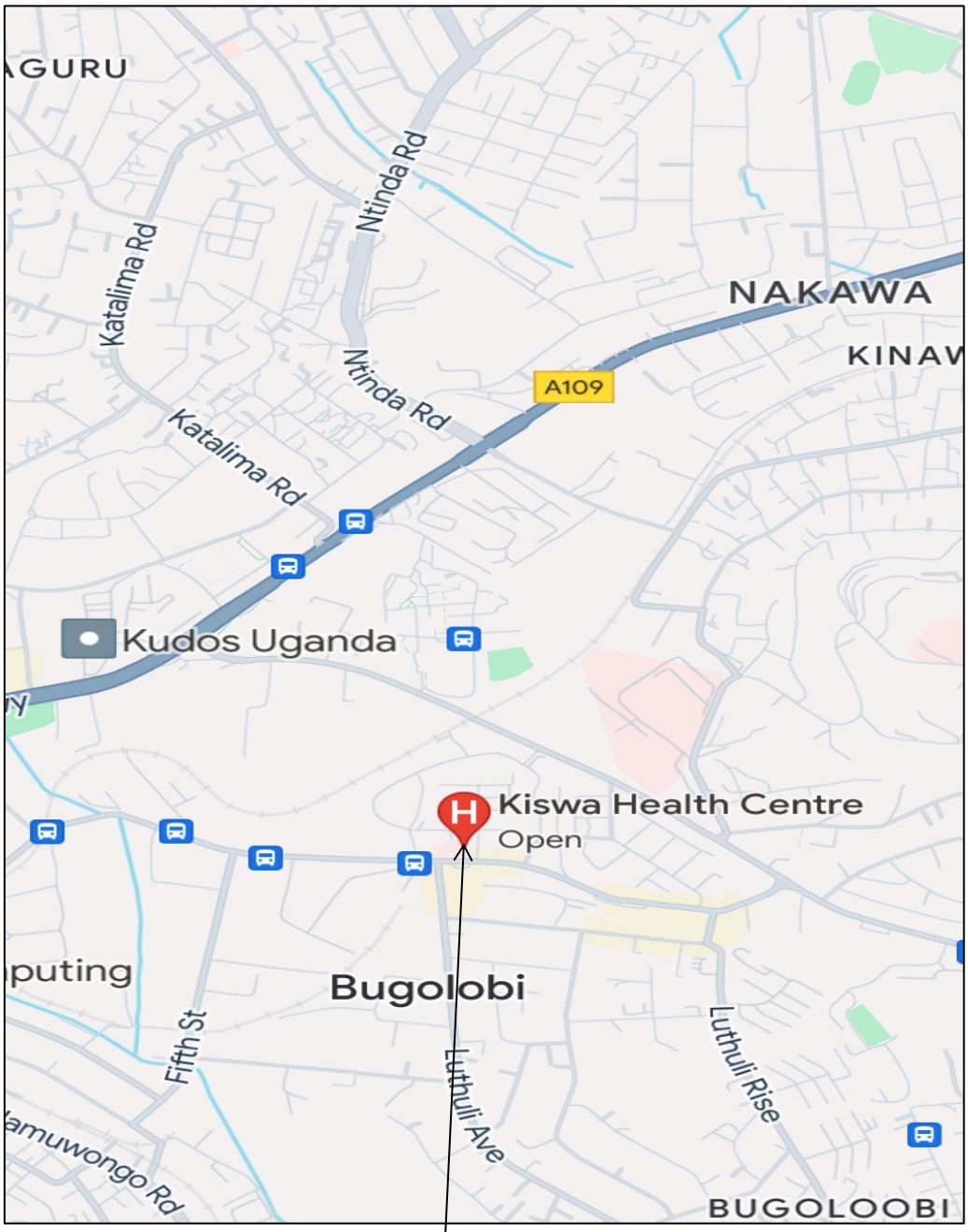
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APPENDIX V: MAP OF UGANDA SHOWING KAMPALA DISTRICT



Key: **Kampala District**

APPENDIX V: MAP OF KAMPALA SHOWING KISWA HEALTH CENTER III



-95 **Study Area**