PATIENTS' SATISFACTION WITH ANTIRETROVIRAL REFILL SERVICES PROVIDED BY COMMUNITY PHARMACISTS IN IBADAN, SOUTHWEST NIGERIA

BY

Omotomilayo Modupeola OBA
B. Pharm (University of Ibadan)
MATRIC NUMBER: 82148

A project in the Department of Health Promotion and Education submitted to
Faculty of Public Health
In partial fulfilment of the requirements for the degree of

MASTER OF PUBLIC HEALTH
(HEALTH PROMOTION AND EDUCATION)
Of the

UNIVERSITY OF IBADAN

MARCH, 2021

ABSTRACT

Community pharmacy antiretroviral refill service was recently rolled out in Nigeria as part of efforts to decentralize HIV/AIDS service delivery. Patient satisfaction can identify specific areas of improvement on which to build improvement efforts. This study was conducted to investigate patients' satisfaction with antiretroviral refill services provided by community pharmacists in Ibadan, Southwest Nigeria.

A descriptive cross-sectional survey using a multi-stage sampling technique to select 185 clientswho are accessing the antiretroviral services from the 14 different community pharmacies providing antiretroviral refill services. Data was collected with a validated semi-structured interviewer administered questionnaire to document socio-demographic characteristics, mode of operation of community pharmacy, satisfaction toward services and barriers to accessing care at the community pharmacy. Satisfaction was measured on a 16-point scale where ≤8 and >8 were rated low and high satisfaction respectively. Data was analyzed using descriptive statistics and chi-square test at $p \leq 0.05$.

Mean age of respondents was 47.1±9.2 years, 73% were females, 63.8% were Christians, 82.2% were Yorubas, 44.3% had tertiary education, 29.7% were tradersand 43.2% had been managing HIV between 11 and 15 years. All (100%) the respondents were satisfied with working hours of the pharmacy and below half (34.6%) preferred to get their antiretrovirals drugs refilled after working hours from 5pm till the pharmacy closes. The average time spent for refilling of antiretrovirals was not more than 10 minutes for59.5% of the respondents while 82.7% were satisfied with the time spent on refilling.Overall mean satisfaction score for the services was 13.6±2.1 with 9.2% having low satisfaction and 96.2% had high satisfaction with the services at community pharmacies. Only afew (6.5%) pharmacy personnel showed any form of discrimination or stigmatization when providing service,9.7% had challenges with drug unavailability or insufficiency,1.1% charged service fees and 2.2% of the pharmacy staff had poor attitude to clients. In addition, distance to the pharmacy and non-suitability of the location were also reported as challenges with the model. However, the duration of appointment, level of satisfaction towards service and satisfaction of appointment time were statistically associated with preference of community pharmacies for refill service.

The level of patient satisfaction with the community pharmacy antiretroviral refill service was high especially within the domains of confidentiality, waiting times, greater flexibility and convenience.The results also showed that there was a statistically significant association

between the level of satisfaction towards service at the community pharmacyand preference of community pharmacy for refill service.

Keywords: Antiretroviral Refill Services, Community Pharmacists, Human Immunodeficiency Virus, HIV management sites, Clinic refill services.

Word count: 446

DEDICATION

This project is dedicated to all people infected and affected by HIV/AIDS in Nigeria in view of the different obstacles in their paths of living and coping with HIV.

ACKNOWLEDGEMENTS

My sincere gratitude goes to my supervisor, Professor Oyedunni S. Arulogun for her advice, time and understanding. I appreciate the time you took to explain things to me in a meticulous manner. Thank you ma. I also acknowledge the opportunity to have been taught and trained by the rich faculty namely the Head of Department, Dr M.A. Titiloye, Professors O. Oladepo, and A. J Ajuwon, Drs. O.E. Oyewole, MojisolaOluwasanu, YetundeJohn-Akinola, I.O. Dipeolu and A.T. Desmennu of the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan.

I acknowledge the research participants who volunteered their time to participate in this research work. Without you, this would have been an exercise in futility. I am equally grateful to my colleagues most especially Mr Abimbola Solagbade and Mrs Olubukola Oluremi for their support.

To my dear parents, I acknowledge the educational foundation you laid that enabled me to attain this feat. Thank you for your support and encouragement. To Mr. John Imaledo, thank you for ensuring we acquired realistic competencies on our field trips and providing access for the timely completion of my project. God bless you sir.

To my darling husband and children, I acknowledge your support in every conceivable way. You have been magnanimous with your support and encouragement in developing my competence and capacity. Thank you for giving me room to fly. I also acknowledge my siblings for their moral and financial support.

To the Almighty God who is the beginning and the end, I bless you and appreciate the gift of good health of mind and body withoutwhich this research work would have been possible. Thank you, Lord.

CERTIFICATION

I certify that this project was carried out by **Omotomilayo Modupeola OBA** in the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan Ibadan, Nigeria,

---

Supervisor

Oyedunni S. Arulogun

B.Ed, M.Ed, MPH, Ph.D, (Ib), Dip HIV Mgt and Care (Israel), FRSPH (UK), CCST (Nig)

Professor

Department of Health Promotion and Education,

Faculty of Public Health, College of Medicine,

University of Ibadan, Ibadan.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

GLOSSARY OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral drugs
CD4+	Cluster of Differentiation Antigen 4
CDC	Center for Disease Control
CPART	Community Pharmacy Antiretroviral Refill model
FMOH	Federal Ministry of Health
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
PEPFAR	President's Emergency Plan for AIDS Relief
PLHIV	People living with HIV/AIDS
UNAIDS	United Nations Programme on HIV/AIDS
WHO	World Health Organization

INTRODUCTION

CHAPTER ONE

1.1 Background to the study

The success of anti-retroviral therapy (ART) in reducing the mortality, morbidity and transmission of Human Immunodeficiency Virus (HIV) has provided hope for ending the HIV epidemic in the absence of a preventive vaccine (NACA, 2014). HIV infection which continues to be a global public health problem has claimed more than 35 million people worldwide mostly in the developing countries and sub-Saharan Africa in particular. (UNAIDS. 2018). The first case in Nigeria was reported in 1986. Current national estimates indicate a prevalence of 1.4% among adults aged 15-49 years which translates to an estimate of 1.9 million people living with HIV in Nigeria as reported by the Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS)., (2019). Key strategies in HIV/AIDS prevention identified in HIV/AIDS prevention and survival of infected individuals include voluntary counseling and testing together with access to antiretroviral agents. Expanding universal accesses to these strategies are therefore, the critical steps to achieving HIV/AIDS vision 2020 which aim to end the AIDS epidemic by 2030 (FMOH, 2016).

Current models of providing HIV services for prevention, testing, care and treatment are being stretched to the limit. To reach the Joint United Nations Programme on HIV/AIDS (UNAIDS) targets of ending HIV as a public health problem by 2030 through the adoption of the 90-90-90 strategy which aims to ensure that 90% of all people living with HIV will know their status, 90% of all people diagnosed will receive sustained antiretroviral therapy (ART), and 90% of all people receiving ART will have viral suppression, all by 2020. To meet these ambitious targets, differentiated approaches are needed to meet the diverse needs and expectations of all people living with HIV (PLHIV). Differentiated service delivery (DSD) has been defined as “a client-centred approach that simplifies and adapts HIV services across the cascade, in ways that both serve the needs of PLHIV better and reduce unnecessary burdens on the health system”. Not all HIV treatment patients have the same types of needs, and the movement toward differentiated models of HIV care acknowledges that, by tailoring services to different patient types, it may be possible to improve service quality and efficiency from both the patient and health system perspective.Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM,2015); International Aids Society (IAS, 2016).

As part of the differentiated care approach, the World Health Organization (WHO) is promotingthe use of community-based ART in a global strategy to end HIV/AIDS as a public health problem by 2030. The community-based ART approach is overwhelmingly supported because it seems to be the only viable strategy for delivering HIV treatment services closer to the people and improving ART uptake, retention in care and decongesting overburdened public health facilities. (WHO 2016).

Community pharmacy settings have been recognized as effective sites for chronic disease management.Thus, the World Health Organization has recommended expanding the roles of community pharmacists to increase access to HIV services(WHO/FIP, 2006). The community pharmacy antiretroviral (ART) refill model was recently adopted by the government of Nigeria in an effort to provide alternate HIV service delivery models towards achievement of the UNAIDS 2030 target(FMOH, 2016).In August 2016, the Federal Ministry of Health, Nigeria, officially adopted a policy of offering treatment to all individuals with HIV regardless of their health status. With this policy and other changes in recent years, the patient population has shifted to include more stable, healthy patients, creating an opportunity to refine the type of care needed by such patients.

Patients' satisfaction of the quality of care and services they receive at a healthcare practice offer practitioners and staff valuable information and data on which to build improvement efforts. One method for collecting information about patient experiences is through the use of patient satisfactions surveys. According to Sullivan, Stein, Savetsky and Samet(2000),patient's satisfaction can be indicative of health care quality because the satisfied patient is usually more likely to cooperate with the health care provider which in turn improves clinical outcome. A well-designed and implemented survey can collect critical patient feedback and also serve as a tool for improving communication between healthcare providers/staff and patients.

1.2 Statement of the Problem

In Nigeria, there are considerable obstacles to treatment access that also compromise the quality of services, these obstacles include inadequate human resource for health, over centralization of service with congestion of large urban clinics (FMOH. 2016).Nigeria bears one of the highest burdens of HIV globally. By the end of 2016, about 30% of the 3.2 million persons living with HIV (PLHIV) were receiving antiretroviral therapy (ART) in Nigeria. Most of these clients receive services in public facilities which have very high client loads

and limited human resources, resulting in long waiting times, client disaffection and reduced retention on treatment(FHI.,2018).

Different models of community ART are being implemented in Sub-Saharan Africa but there is limited data on the involvement of community pharmacy in the delivery of ART within the community as reported by Selke *et al.* (2013). In line with recent adoption of the community pharmacy ART refill model, it is not known whether patients receiving antiretroviral refill services from community pharmacists in Ibadan are satisfied with the services.

1.3Justification of the Study

The Community Pharmacy ART model (CPART) is one of the models recently adopted by the government of Nigeria in line with the 2016 WHO HIV prevention, treatment and care guidelines in an effort to provide alternate HIV service delivery models towards achievement of the UNAIDS 90-90-90 target. This model has been previously successfully rolled out in Lagos and Abuja as reported by Avong,Aliu., Jatau, Gurumnaan., Danat*et al.* (2018).In 2018, Oyo state also started the implementation of the community pharmacy differentiated care model in Adeoyo Maternity Teaching Hospital and the University College Hospital Ibadan.

This study set to investigate the level of patient satisfaction with the antiretroviral refill services being provided by fourteen selected community pharmacists in Ibadan for University College Hospital HIV patients. This study will generate information for quality improvement, management and further help in future planning when this service delivery model is being scaled up across the state also to serve as further evidence and the feasibility of the benefits of the community antiretroviral refill therapy model across various patient populations(WHO., 2016). The results from this study will also help generate baseline data against which to measure changes in patient satisfaction with the community pharmacy antiretroviral refill services in Ibadan.

1.4 Research questions

This study provided answers to the following research questions;

i. What is the mode of operation at the community pharmacy?
ii. What is the level of patient satisfaction towards servicereceived at the community pharmacy?
iii. What are the barriers to accessing care at the community pharmacy?

1.5.1 Broad Objectives of the Study

The general objective of this study was to investigate patient's satisfaction with antiretroviral refill services provided by community pharmacists in Ibadan, Southwest Nigeria.

1.5.2Specific objectives

The specific objectives were to

1. Describethe mode of operation at the community pharmacy.
2. Determine the level of satisfaction with service at the community pharmacy.
3. Identify challenges or barriers to accessing care at the community pharmacy.

1.6 Research hypotheses

Three hypotheses were tested by this study:

$H_0$1: There is no significant association between the duration of appointment and preference of community pharmacy for refill service

$H_0$2: There is no significant association between the level of satisfaction towards service and preference of community pharmacy for refill service

$H_0$3: There is no significant association between satisfaction with appointment time and preference of community pharmacy for refill service

CHAPTER TWO

LITERATURE REVIEW

2.1 CONCEPTS OF HIV/AIDS AND SERVICE DELIVERY

Human Immunodeficiency Virus (HIV) belongs to the retrovirus family of viruses. HIV affects the immune system of infected persons by destroying T-lymphocytes cells, which the body relies on to fight infection (FMOH. 2016). There are two distinct serotypes of HIV virus, type 1 and type 2. The HIV-1 is the primary cause of Acquired Immunodeficiency Syndrome (AIDS) worldwide while HIV-2 is found largely in West Africa and its vertical transmission is unusual (Sanders *et al.*, 2007).Acquired Immune Deficiency Syndrome (AIDS) is the late stage of HIV infection, a condition characterized by destruction of CD4+ T cells which help the body fight diseases (FMOH. 2016). The syndrome first defined in 1981 among homosexual men and intravenous drug users in New York and California has grown in epidemic among heterosexual men, women and children in sub-Saharan Africa (CDC, 2009). Although initial infection with HIV can result in flu- n n alike symptoms, infected persons typically show no symptoms for many years but as HIV replicate in the body, infected persons begin to show signs and symptoms e.g. shingles, tuberculosis, oral and vaginal thrush, herpes simplex virus and Kaposi sarcoma (WHO., 2009), which is a reflection of a weakened immune system or loss of the body's ability to fight infection.

Since the beginning of the epidemic, 75 million people have been infected with the HIV virus and about 32 million people have died of HIV. Globally, 37.9 million (32.7–44.0 million) people were living with HIV at the end of 2018. An estimated 0.8% (0.6-0.9%) of adults aged 15–49 years worldwide is living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions. The WHO African region remains most severely affected, with nearly 1 in every 25 adults (3.9%) living with HIV and accounting for more than two-thirds of the people living with HIV worldwide (WHO, 2018).

The first case of AIDS in Nigeria was reported in 1986. Since then, national HIV prevalence has

increased exponentially from 1.8% in 1991 peaking at 5.8% in 2001 and progressively declining

since then to the current figure of 1.4% among adults aged 15-49 years in 2019(NAIIS., 2019). There is a considerable regional and state to state variation in HIV prevalence in the country; ranging from 0.3% in Jigawa and Katsina States to 5.5% in Akwa Ibom State. (NAIIS, 2019). Regional variations show a variation of 0.6% in the North West to a peak of 1.6% in the South- South region. While Nigeria's national HIV prevalence is 1.4% among adults aged 15–49 years, women aged 15–49 years are more than twice as likely to be living with HIV than men (1.9% versus 0.9%.) The difference in HIV prevalence between women and men is greatest among younger adults, with young women aged 20–24 years more than three times as likely to be living with HIV as young men in the same age group. Among children aged 0–14 years, HIV prevalence according to the new data is 0.2%. (NACA, 2019)

According to WHO, less than 30% of people diagnosed with HIV in low- and middle-income countries navigate the full continuum of care (WHO, 2016). Globally, less than 50% of adults are retained in care four years after initiation of antiretroviral therapy (ART) and even in developed countries, the achievement of global targets is limited by the complex challenges associated with large scale public health interventions. In fact, only 27% of all persons on ARTare virally suppressed (FMOH. 2016). HIV and AIDs has evolved over the years from an acute deadly disease to a manageable chronic disease requiring regular clinic visits for medical consultation, laboratory testing and medication refills. The patient needs to be self-motivated and satisfied in order to remain committed to these activities (Abah,Nondumiso, Ncube, Hazel*et al.*, 2018).

In Nigeria, there are considerable obstacles to treatment access that also compromises the quality of services; these obstacles include inadequate human resource for health, over centralization of service with congestion of large urban clinics. With nearly one million patients on treatment, it is necessary to adopt service delivery models that improve access, enhance adherence, maximize resources improve retention and strengthen systems. Decentralization, task shifting to nurse-led teams and community delivery and more efficient procurement and supply management are innovations to ART service delivery that will support massive scale up services required to achieve the 90-90-90 by 2020 targets (FMOH, 2016). Patient retention refers to the proportion of people who continue ART among those who ever started. It is the number of patients on ART and alive either in the same facility or documented transferred out to another facility offering ART services. Retention in care is critical to the overall success and impact of HIV programme.

These challenges are not peculiar to Nigeria alone. A study from South Africa also reported long waiting times, poor confidentiality and restricted opening hours as challenges discouraging clients from engagement with care at public health facilities which led to the adoption of community based care in which clients collect their treatment every two months from private pharmacies and community based organizations. (Doward, Msimango, Garret, Gibbs, Shozi, Tonkin-Crine, Hayward, Butler, Ngobese and Drain, 2020). Factors that contribute to loss from care and treatment include long distance to clinic, inadequate/lack of funds for transportation to clinic, forgetting clinic appointments, ill health, peer pressure especially in adolescence, substance abuse and mental health problems, stigma, discrimination and lack of disclosure, inadequate information and knowledge of the need for life long art treatment, inconvenient clinic hours, especially for patients with busy schedules, family responsibilities and/or the need to care for others sick family members, incarceration and long waiting time during clinic appointments.

A combination of interventions is required to address individual, institutional and community level related factors responsible for poor retention in care and treatment. This is particularly important among specific population groups. Over the years, eligibility criteria for commencing ART have changed significantly. With the recent adoption of test and start policy in which patients commence ART irrespective of CD4 count has led to the increase in the number of stable patients who are on treatment. This has necessitated a differentiated care approach in meeting the diverse needs of patients on treatment

Differentiated care is the delivery of a minimum package of HIV/AIDS treatment care and support services according to the diversity of the care needs of people living with HIV.

Broadly, there are four categories of people living with HIV/AIDS with specific service

1. Newly diagnosed patients who are generally well at presentation, in WHO stage 1 and 2 with probably high CD4+ cell counts. Preparation for ART requires readiness and willingness to initiate treatment. Adherence and retention in care are essential in committing to lifelong ART.
2. For another category, patients who present with advanced disease, the priority is to prevent death and reduce illness. This category of patient requires accelerated clinical response with initiation of ART, treatment of opportunistic infection and other care and support services. Late presentation may be traceable to individual, health facilities and other related factors.

3. A third category includes patients who have been unstable on ART. They will require close monitoring for identification and treatment of opportunistic infection, viral load and adherence monitoring.
4. A fourth category are stable patients who require less clinic visits. Stable patients are those who have received ART for at least one year and have no adverse drug reactions that requires regular monitoring, no current illnesses or pregnancy, are not currently breastfeeding and have good understanding of lifelong adherence and evidence of treatment success (two consecutive viral load measurements below 1000 copies/mm. Table 2.1 below, shows the different approaches to care of HIV for patients living with HIV.

Table 2.1: Differentiated approaches to HIV care

People living with HIV	Care package elements
Newly diagnosed presenting well	• Initiation of ART • Adherence and retention support • TB screening and IPT
Newly diagnosed presenting with advanced disease (CD4+ cell count below 200 cells/mm or WHO diseases stages 3 and 4)	• Initiation of ART • Clinical package to reduce mortality and morbidity • Opportunistic infection screening and management. • TB screening diagnosis and treatment • Cotrimoxazole and Isoniazid prophylaxis
Unstable individuals	• Adherence and retention support • viral load testing • switch to second- or third-line ART if indicated, monitoring for HIV drug resistance (HIV-DR) • Opportunistic infection screening and management. TB screening diagnosis and treatment. Cotrimoxazole and Isoniazid prophylaxis
Stable individuals	• Reduced frequency of clinic visits and community ART delivery models

In addition, pre exposure and post exposure prophylaxis have also been reported as services that can be provided in community pharmacies as part of the community based HIV/AIDS service delivery. In the United States of America, some models of community based HIV/AIDS service delivery involve licencing of community pharmacists to order initial and ongoing prescriptions for antiretrovirals used for pre exposure prophylaxis as well as obtain screening tests results for HIV and other sexually transmitted infections and also have access to other laboratory test results. Furthermore, they also dispense antiretrovirals, perform adherence counselling and conduct follow up monitoring as reportedby Lopez, Grant and Dong. (2020).

2.1.1Community pharmacy antiretroviral refill model

World Health Organization recommends initiating HIV care and settings in community settings as part of the strategies needed to close the gap in delivery of HIV care services in sub-Saharan Africa (WHO,2015). Community pharmacy settings have also been recognized as effective sites for health promotion, screening and management of chronic diseases and can be used effectively as part of the decentralization strategy because according to UNAIDS, 95% of service delivery for HIV takes place in the hospitals. (FHI 360, 2016). This makes them readily available as low hanging fruits in the decentralization strategy.

Coming on the backdrop of the recent successes recorded in the fight against HIV/AIDS as evidenced by the drop in the national prevalence from 3.1% to 1.5% (NAIIS, 2019), the community pharmacy antiretroviral refill model was recently introduced as a type of differentiated care for stable patients on first line treatment for HIV in Nigeria in order to consolidate on the gains. Community pharmacies in Nigeria are registered private pharmaceutical premises licensed by the Pharmacists Council of Nigeria—the body responsible for the education of pharmacists and pharmacy practice in Nigeria. The community pharmacies are different from the Patent Medicine Vendors (PMV) in several ways. PMVs are registered to dispense over-the-counter drugs but the community pharmacies dispense prescription drugs and are managed by superintendent pharmacists referred to as community pharmacists. Annual license to “import, export, prepare, dispense, and distribute drugs and poisons” are issued to the CPs by the Pharmacists Council of Nigeria (PCN 1992) while PMVs are issued with the PMV license. The adoption of this strategy will help to decrease the overburdened health systems, decongest hospitals and increase access to care for people living in with HIV/AIDS. Some studies have earlier documented the readiness and

willingness of community pharmacists to be engaged in HIV/AIDS service delivery. Ajagu, Anetohand Nduka (2017) from a study conducted in south east Nigeria among community Pharmacists reported that community pharmacists in the south eastern part of Nigeria have a high knowledge of HIV with high willingness and readiness to be involved in HIV care services. They further recommended the adoption of policies towards empowering community pharmacist to be key players in HIV service delivery.

In the western countries however, several studies have documented the different roles community pharmacies can play in the treatment of HIV/AIDS. A studyby Gorostiza, Elizondo and Braceras (2013) that randomly surveyed the use of HIV rapid screening tests in 20 pharmacies showed that patients reported that their decision to get tested for HIV was strongly motivated by the convenience and accessibility of community pharmacies. Murphy, Pietrandoniand Guglielmo (2012) havealso recommended that HIV-positive patients who were struggling with antiretroviral adherence would be better managed in an HIV-focused pharmacy. These findings highlight the important contributions community pharmacies bring to the table for effective management of HIV/AIDS as well as improved service delivery.In a recent study by Avong *et al.* (2018), it was reported that integrating community pharmacists into the antiretroviral program was highly beneficial. In the pilot study at Abuja which involved a total of 295 patients devolved to 10 community pharmacies for ART refill, a high retention rate of 99.3% was reported. Also, rate of prescription refill was excellent (100%). this study suggests and demonstrates the feasibility of the community pharmacy model as a convenient method of service delivery in achieving retention in care of PLWHAs rather than depending on only public health facilities. In addition, (PEPFAR) (2020) has also reported improved adherence and removed barriers to access which led to a decongestion of public sector hospitals who participated in devolving stable patients on ART to community pharmacies. Convenience as a benefit of the community pharmacy refill was also highlighted as patients had the opportunity to pick up drugs after office hours and public holidays which were hither to impossible in the public hospitals.

2.2Mode of operation and role of community pharmacy

Community based pharmacy practice has over the years transitioned from a medicinal product distributor to becoming more patient focused with pharmacies providing a wide range of services which includes medication management, educational consultations chronic condition management, care coordination, health and wellness services and other services that help to improve patient care. Against the backdrop of a need to increase access to

primary care services, improve outcomes for patients especially for those who are managing chronic healthcare conditions, all types of health care providers who have the necessary knowledge, skills and abilities must be utilized wherever possible to provide needed care. This has necessitated a shift from being a distributor of medications to being a healthcare provider.

According to the World Health Organization, health systems responsiveness is the ability of the health system to meet the populations' legitimate expectations regarding their interaction with the health system apart from expectations for improvements in health (WHO,2016).The community pharmacy ART drug refill model seeks to ensure that patients who are adherent and virally suppressed (stable patients) can refill their ARVs at community pharmacies of their choice whenever they are due for antiretroviral refill. This will in turn help to deliver treatment services closer to the people thereby improving ARV uptake, retention in care and decongestion of overburdened public health facilities.

Roles and responsibilities of community pharmacists in the ART program include

- Supply chain management and logistics of ARV drug supply
- Provision of medication and adherence counselling to patients during drug pick up and assessment of level of adherence.
- Pharmacovigilance
- Inventory Control and management

Services are delivered through professional ethics and international human right norms which consist of two major components.

The first component is the respect for persons and this captures the ethical dimensions of a patient's interaction with the health system. This component also has three aspects which include;

1. Respect for dignity

- Individuals should be treated with respect: welcomed at the pharmacy, addressed respectfully at all times, not shouted at or abused.
- Individuals should be treated with concern
- Individuals should be examined and treated in a manner that respects their privacy.
- The rights of individuals with communicable diseases such as HIV+ and leprosy or any other type of diseases should be safeguarded and not violated

2. ***Respect for confidentiality***

- Consultations with patients should be carried out in a manner that protects their privacy.
- Pharmacists should maintain the confidentiality of any information that is provided by the patient (except if the information is needed for treatment by other healthcare providers).
- Pharmacists should keep information in patient medical records confidential (except where such information needs to be given to another health care provider).

3. ***Respect for autonomy.***

- Individuals should be told about alternative treatment options
- Individuals should be allowed to make decisions regarding the type of treatment, after discussion with the health care provider
- Individuals should be encouraged to question
- Patients of sound mind should have the right to refuse treatment.

The second component is inclusive of dimensions of satisfaction that are not a function of improvement in health. This component is inclusive of four aspects namely

1. ***Prompt attention to health needs***

Pharmacies should be geographically accessible – taking account of distance, transport, and terrain.

- Patients should be able to get care fast in emergencies.
- Waiting times for consultation and treatment should be short.
- Waiting lists for consultation and treatment should be short.
- Waiting times for appointments should be reasonable

2. ***Basic amenities***

Environment in which health care is provided should include:

- Clean surroundings
- Adequate furniture
- Sufficient ventilation
- Clean Water
- Clean toilets
- Clean linen
- Regular procedures for cleaning and maintaining buildings and premises

3. Choice of pharmacists

- Patients should be able to reach health services of choice without too much difficulty
- Within a health care unit individual should be able to choose their health care provider
- Individuals should be able to get a second opinion in cases of severe or chronic illness.
- Individuals should be able to get general and specialist care as appropriate

2.3Satisfaction towards service at the community pharmacy.

Patient satisfaction is a key factor in quality assessment of the health care systems and has been categorized as an important humanistic outcome measure in pharmaceutical care. Various authors have given different definitions to patient satisfaction. Gourley, Gourley, Rigolosi, Reed*et al.* (2001) defined it as a predictive measure of the probability that a patient will continue to use the service of a particular provider, while Schommer and Kucukarslan (2009) considered it a personal evaluation or appraisal of a service or product. Patient satisfaction is a multidimensional construct that focuses on different aspects of health service delivery and outcome. Documented literature has reported several domains used by researchers for the assessment of patient's satisfaction or dissatisfaction across various settings inclusive of both public and private settings. (Wouters, Heunis, Van Rensburg and Herman 2008; Campbell,Olufunlayo and Onwenenyi 2010). Such documented domains include waiting times, perceived technical competence of service provider, convenience, accessibility, availability of services and prescribed drugs, confidentiality and incurred cost of visit. The service quality framework established by Parasuraman, Zeithamal, and Berry (1988) also indicates the various predictors of client satisfaction to include reliability of services, assurance of staff, tangibles within the health facility such as good appearance of the facility, clean personnel, staff responsiveness and empathy

Community pharmacies remain an underutilized resource to detect and intervene in response to poor adherence. Pharmacists make ideal treatment advocates because they can build trusted relationships with patients and are trained to discuss medication-related problems and adherence when conducting medication therapy management evaluations (Blake, Madhavan, Scott and Meredith-Elswick. 2009). Consequently, pharmacies are at a unique and potentially influential juncture in the landscape of contemporary health care.

Various studies have been conducted and different findings reported on patient satisfaction with community pharmacy services. In a review of pharmacy literature evaluating the

utilization of patient satisfaction with different levels of pharmacy services, Panvelkar, Saini and Armour. (2009) reported high levels of patient satisfaction with pharmacy services across general, intervention and cognitive services. In a cross-sectional study conducted by Oparah andKikanme (2006), about consumer satisfaction with community pharmacies in Warri, Nigeria, the authors reported that consumers experienced moderate service satisfaction with their community pharmacy encounters especially with the professional attitude of the pharmacists. They further opined that there was an opportunity for the community pharmacies to introduce new services and enhance their consumer loyalty. The new community pharmacy antiretroviral refill model may be one of such services which may enhance consumer loyalty for such community pharmacies offering the anti-retroviral services.

In a study done in California, the study determined that most of the pharmacies engaged in patient counseling only when overuse or poor adherence was detected, and that most pharmacies offered telephone refill reminders to their patients(Rosenquist, Best, Miller, and Gilmer 2010; Cocohoba, Murphy, Pientradoni and Guglielmo (2012). In USA, the services offered in these HIV/AIDS pilot pharmaciesappear to be more specialized and comprehensive which could increase the satisfaction towards services (Doucette, Kreling, and Schommer 2006).

A cross sectional survey carried out in Ghana to examine the perceptions of the general public towards community pharmacists' role in health service delivery showed that majority of respondents believed that community pharmacists are responsive, friendly and had the capacity to handle minor ailments and provide medicines related advice with accessibility and availability being important factors that promote the use of community pharmacies. (Okai, Abekah-Nkrumah and Asuming 2019). These factors are part of the reasons for the promotion of the use of community pharmacies as sites for providing antiretroviral refill services for HIV positive patients who are stable and whose lifestyles and economic activities do not allow them to keep up with hospital appointments as at when due. This is in consonance with the results of a study in Nigeria which reported that utilizing community pharmacies for differentiated HIV care and services could increase uptake and retention in care by eliminating the bottlenecks often encountered in public health facilities.(Dapar, Joseph, Damun, Okunlola, Ahmadu, Aya, and Alphonsus 2019). Feedback from a report by PEPFAR, (2020) about leveraging private pharmacists to expand ART distribution, promote adherence and mobilize resources for HIV/AIDS service delivery indicated that clients

reported privacy/confidentiality, shorter waiting times and lack of congestion as some of the benefits enjoyed at the community pharmacies. In addition, hospital pharmacists also reported the reduced client load from an average of 60 per day to 30-35 per day which in turn provided more time for engagement with unstable clients to improve outcomes.Olorunsola, Eichie, and Awofisayo (2019), also reported a high level of satisfaction among clients refilling antiretrovirals from community pharmacies in Akwa Ibom Nigeria.

Patient satisfaction is also a potent tool for evaluating care services and validating the quality of care provided. Information obtained therein helps health administrators to identify areas of improvement such as patient education, health worker-patient relationship, program planning, follow up and clinic organization in order to rapidly improve the quality of health service delivery and its expected outcome. (Gourley *et al.,* 2001). Patient's satisfaction can be used as an indicator of health care quality because the more satisfied a patient is, the more likely the patient will cooperate with the health care provider and have a higher level of continuity with the provider which in turn improves clinical outcome. (Aharony and Strasser, 1993).

According to Donabedian (1980), client satisfaction is of important significance as a measure of quality delivery. A study conducted about patient's perspectives on HIV/AIDS reproductive health services reported that patients were very satisfied with services received (Orner *et al.*, 2008). This has important implications on retention of patients in care which is an important quality indicator in management of HIV/AIDS. Satisfied patients are more likely to comply with treatment and be retained in care, (Sing*et al.*, 1999). According toWare *et al.* (1978), there are 8 dimensions of patient satisfaction. These include the art of care, technical quality of care, accessibility/convenience, finances, physical environment, availability, continuity of care efficacy/outcomes of care. Waiting time is regarded as an aspect of accessibility and convenience. Waiting time is regarded as inclusive of every second a patient spends within a facility.

2.5Challenges or barriers to accessing care at the community pharmacy

Poor quality of care is one of the most common reasons why clients would not choose to use available health services. From a study reported by Iyaniwura and Yussuf (2009), it was found that perceived quality of service was the most important factor which influenced the choice of a facility to receive care. Sie (2015), in a study to examine service quality and patient satisfaction in a health care facility, established that quality delivery of service has a

positive relationship with patient satisfaction and that if service quality is poor, retention of patients would be difficult.

Stigma remains a major issue associated with a diagnosis of HIV/AIDS. Requirements by WHO for facilities involved in the provision of HIV treatment and care services include the provision of adequate space with auditory and visual privacy in order to maintain privacy and confidentiality. (WHO 2015). The confidentiality of a person's HIV status is importance because people with HIV and AIDS face discrimination when other people find out they have HIV. Confidentiality of health information and security of personally identifiable health information are particularly important for HIV/AIDS prevention efforts due to the high levels of stigmatization and discrimination surrounding HIV and AIDS which may contribute to poor health seeking behavior among patients when they cannot ascertain that their information will remain confidential. Patient satisfaction with confidentiality and privacy can go a long way in improving retention in care. Dapaah and Jonathan (2016) reported that due to breach of confidentiality, patients find accessing care problematic. They also reported that many clients are uncomfortable with the quality of care provided by health workers as they covertly and overtly breach confidentiality about client's health status which can invite stigma and discrimination.

Dorward, Msimango and Gibbs (2020) from a study in South Africa also reported inflexible pick up dates, the clients antiretroviral not being found in the community pharmacy and delays in receiving reminder SMS as some of the challenges encountered with community art delivery model. In Uganda, Zakumumpa,Rujumba and Kwiringira (2020) reported multiple barriers associated with implementation of the community pharmacy refill method. Such barriers at the individual level include a fear of detachment from health facilities by stable patients, supply chain barriers to multi-month ART dispensing was also reported.

In general, HIV patients dreaded being identified as having HIV by co-workers, employers, neighbours, friends and family members because of the social consequences. Such consequences in Nigerian society include social exclusion by neighbours (for example instructing their children never to play or even go near the children of the infected person) and being essentially unemployable. In like manner, from a study conducted in Abuja, Nigeria by Audu (2013), patients reported that they were often afraid of disclosing their status for fear of stigma, scandal, discrimination and societal pressure. These observations are consistent with those found in other studies by Gaudine, Gien, Thuan and Dung (2010)in

which perspectives of HIV related stigma in a Vietnamese community was explored. In another study by Gilbert and Walker (2010) concerned with stigma experienced by patients in an HIV clinic in South Africa, the researchers also went further to confirm a positive association between patient satisfaction and confidentiality of service.Manaf and Noosi (2009) reported that patients were not satisfied with waiting time in the studied public health facilities. In a situation whereby there is a paucity of health workers, patient dissatisfaction with waiting time may contribute to poor retention in care. In contrast, some studies carried out in South Africa and Nigeria by Wouters *et al,* (2008), Ogunfowokan and Mora (2012) respectively, reported a high level of dissatisfaction with patient's waiting time.

2.5CONCEPTUAL FRAMEWORK

The planning aspect of PRECEDE model was selected to guide this study. The PRECEDE framework will be used as a model which is useful in the diagnosis of behavioural antecedents. The acronym PRECEDE stands for Predisposing, Reinforcing and Enabling Constructin Educational Diagnosis and Evaluation. The model was developed by Green and Kreuter (2005). It has served as a conceptual framework in health education planning aimed diagnosing the health problems of a community, understanding the factors that influence the people's behaviour and developing intervention to promote healthy behaviour.

The process takes into account the multiple factors that shape health status and helps planners arrive at a focused subset of those factors for interventional targets. The model takes into consideration the interrelations between people and their environment, which as effect on health behavior change which must align. The model draws on epidemiological, economic, psychological and sociological theories to guide these complex ideas (Glanz *et al.*, 2008).

The model consists of three groups of factors namely predisposing, enabling and reinforcing factors which can influence behaviour. These factors are called behavioural antecedent factors

Predisposing Factors

The predisposing factors are behavioural antecedent factors that make any related behavior more (or less) likely to occur.They are factors which must be prepared before a behavioural decision takes place. Predisposing factors include non-stigmatization, knowledge on refill service, perception towards community pharmacies, values and inherent qualities which are useful for stable or suppressed HIV patients to be refilling their drugs.

Enabling Factors

These are factors that make any given health-related behaviour more (or less) likely to occur. These are factors which are present before the behavioural decision to visit community pharmacy. These factors include professional competence of pharmacist, distance to pharmacy, waiting area, support, and short refill time.

Reinforcing Factors

These are factors that are related to the influence of significant others such as friends, family, peers, parents and other relations etc. For instance, peers may encourage community pharmacy for refill, thereby having a vital role to play in feasibility of the community antiretroviral refill therapy model across various patient populations.

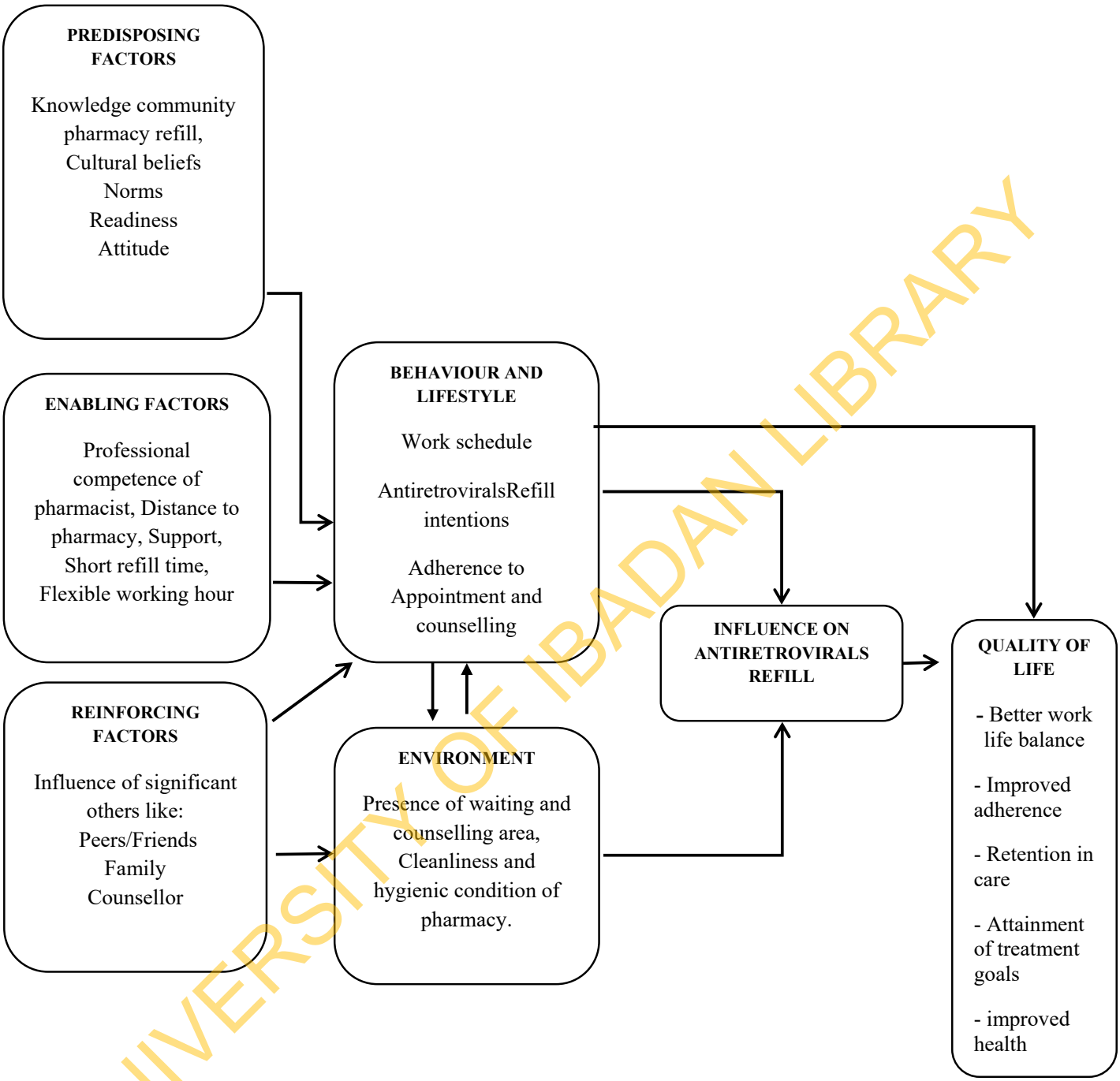

Fig 2.1: Application of PRECEDEmodel to patients' satisfaction with community pharmacy antiretroviral refill service.

CHAPTER THREE

METHODOLOGY

3.1 Study design

The study utilized a descriptive cross-sectional design in measuring the patient's satisfaction with the community pharmacy refill model in comparison with the clinic/hospital-based model of antiretroviral refill services, factors for preference of the community pharmacy antiretroviral refill method and identifying challenges or barriers to accessing service using a semi-structured interviewer administered questionnaire.

3.2 Study area

Ibadan is the capital of Oyo-State and the third largest metropolitan city in Nigeria, with an estimated population of 3, 847, 472, in 2007. Ibadan is comprised of 11 LGAs; of which five are urban and six are rural, based on locations of their headquarters ((NPC) and ICF Macro, 2009). There are six rural LGAs (Oluyole, Ona-Ara, Egbeda, Ido, Akinyele, and Lagelu) and five urban LGAs (Ibadan North, Ibadan North East, Ibadan North West, Ibadan South West and Ibadan South East). The community pharmacies used for the study are located in the five urban LGAs and four rural LGAs. (Oluyole, Ido, Akinyele and Egbeda). Ibadan is divided into three socio-economic and cultural zones, which cut across the LGAs: a traditional inner core, a transitional, and a suburban periphery. The inner core areas form the old part of the city, inhabited, for the most part, by people with a low level of education. These areas are highly congested and overcrowded, have few and poor roads, limited amenities, and many public health problems. The transitional area is an interface between the inner core and elite areas. The suburban periphery is described as the elite area, containing modern low-density residential estates, occupied by professionals and other high-income groups (Arulogun, Adelekan, Olaseha, 2012).

3.3 Study population

The study population for this research was HIV positive patient receiving antiretroviral refill services at the community pharmacies in Ibadan, Southwest Nigeria.

3.4 Inclusion criteria

Only patients registered for the community pharmacy antiretroviral refill model who had refilled their ART from the community pharmacy at least once and who also consented to participate voluntarily in the study were included.

3.5 Exclusion criteria

HIV positive patients who had registered but not available or not fit (sick) at the time of study.

3.6 Sample size

The total population sample size formula was used to calculate the number of respondents to participate in the study from the number of HIV positive patient registered for the community pharmacy antiretroviral refill model.

$$n = \frac{\frac{z^2 x\ p\ (1 - p)}{e^2}}{1 + \left(\frac{z^2 x\ p\ (1 - p)}{e^2 N}\right)}$$

N = population size (300) n = sample size

e = Margin of error (percentage in decimal form) z = z-score

$$n = \frac{\frac{1.96^2 \times 0.5\ (1-0.5)}{0.05^2}}{1 + \left(\frac{1.96^2 \times 0.5\ (1-0.5)}{0.05 \times 300}\right)}$$

n = 168.4

A non-response rate of 10% of 168= 168 x10% = 17

Total = 168 +17 = **185**

One hundred and sixty-eight respondents were therefore targeted to participate in the study. However, the figure was raised to one hundred and eighty-five to adjust for 10% attrition rate thereby minimizing non-response bias.

3.7 Sampling Technique

Multi stage sampling technique was employed in the study

Stage 1: Simple random sampling was used to select one facility out of the two healthfacilities with HIV patients refilling antiretrovirals from community pharmacies.

Stage 2: Purposive sampling was used to select fourteen community pharmacies registered for antiretroviral refill model at the facility

Stage 3: Proportionate sampling was used to determinenumber of participants from allregistered community pharmacies

Stage 4: Systematic random sampling was used to select participants from each registered community pharmacy.

Formula for calculating proportional allocation (n/N) * X

n=number of sub sample (occupation) N=total number of study population (300)

X=calculated sample size (185)

Table 3.1 Proportionate allocation of PLHIV utilizing community pharmacy refill services

Pharmacy	Total	Allocated Proportion
Lavida	53	33
Medhelp	50	31
Trevin	38	23
Semat	28	17
Atand	25	15
Olabola	23	14
Supermax	22	14
Favorbel	15	9
Qhealth	14	9
YKJ	12	7
Caresite	9	6
Fortis	4	2
Datotem	4	2
Medconsult	3	2

Total	**300**	**185**

3.8 Instrument for Data Collection

A semi-structured interviewer administered questionnaire was designed to collect data from HIV positive patient receiving antiretroviral refill services at the community pharmacies to provide information on the socio-demographic characteristics of the respondents, document the mode of operation at the community pharmacies, assess the level of satisfaction with services at the community pharmacies, identify challenges or barriers to access being encountered.

3.9 Validity of instrument

Validity refers to the accuracy of an instrument that is, how well it measures what it is supposed to measure.The researcher ensured validity of the instrument by reviewing relevant current literature. Also subjected the instrument to scrutiny by experts to validate the instrument and the supervisor will be consulted. These individuals edited and make useful corrections and suggestions before the actual administration of the questionnaire to the study participant.

3.10 Reliability of the Instrument

In establishing the reliability of the instrument, the researcher applied the Pre-test technique. The Pre-test technique is a process whereby the researcher shall administer the constructed questionnaire to 10% of the total study population in another representative population but the filled questionnaire for the pre-test was not used in the final analysis of the work. The pre-test of this study was carried out in Adeoyo Hospital; a similar population group, questions found to be unclear or unnecessary was modified or deleted accordingly. Appropriate corrections were captured subsequently to establish reliability. A Cronbach Alpha co-efficient of 0.82 was gotten which shows that the instrument is reliable.

3.11 Data Collection Procedure

A quantitative method of data collection was used with the aid of a semi-structured questionnaire for this research which was administered over a defined period. The data was collected with the help of five (5) trained research assistants. They were trained in the administration of the questionnaire, the informed consent and assisted the respondents with any of the questions they find difficult to understand or comprehend. The research assistants were colleagues in the Department of Health Promotion and Education who are knowledgeable about the subject matter.

For the study, serially numbered interviewer-administered questionnaire was used. The data was collected by the researcher with the use of five (5) research assistants who were trained before the collection of data and translator using sign language was trained as well. The research assistants moved from one community pharmacyto another in the community to select the eligible respondents. The respondents were aware of the possible benefits and harms that might occur during the study. They were given adequate information, and informed consent was attached to the questionnaires. Then, after the questionnaire has been filled, completeness and errors were checked correctly before leaving the field.

3.12 Data Analysis and Management

All completed copies of the questionnaire were checked for completeness and consistencies of variables. The questionnaire used was manually sorted out before the information was supplied, it was entered into the computer and then Statistical Product for Service Solution (SPSS) version 25 was used for the analysis of the data collected. The data collected was subjected to descriptive and inferential statistics which includes Chi-square analysis with p-value set at 0.05 level of significance. Satisfaction was measured on 16-point scale where ≤8 and >8 was rated low and high satisfaction respectively. Descriptive statistics was used to document the mode of operation at the community pharmacy, assess the level of satisfaction towards service at the community pharmacy, and identify challenges or barriers to accessing care at the community pharmacy and Pearson chi-square was used to determine the significance of the hypotheses.

3.13 Ethical Consideration

The study proposal was reviewed and approved by the UI/UCH Ethics Committee (Appendix1), before the commencement of the study. Participation in the study was voluntary and there was no criticism of respondents who refused to participate or disengaged from the study. Regarding confidentiality, the researcher provided clear explanations to respondents that shared information would be treated with utmost discretion and confidentiality which only the research supervisors had access to. Regarding anonymity, the researcher used unique anonymized identification numbers to identify each respondent. The identification numbers were used for all respondents. The research assistants were also trained on how to treat respondents as an autonomous body, capable of making decision and should be respected.

3.14 Limitationsto the study

The study did not explore the practice and factors influencing the services provided from the pharmacist's angle who are important stakeholders, the study could not cover other geographical zones in the country due to limited time and financial constraint; however, a representative sample size was used. Also, those that did not adopt the model were not interviewed to document the factors influencing the decision of not utilizing community pharmacy antiretroviral refill service.

CHAPTER FOUR

RESULTS

4.1 Socio-Demographic Characteristics of Respondents

There were one hundred and eighty-five respondents recruited for the study with majority (73.0%) of them females. Age range from 41 to 50 years had the highest percentage (42.7%)with a mean age of 47.1±9.2 years and 64.9% were married. Among the respondents, 63.8% were Christians and 82.2% were of Yoruba ethnicity. Level of education showed that 44.3% had tertiary education, 29.7% were traders(Table 4.1) out of which 43.2% had been managing HIV for about 11 to 15 years (Fig 4.1).

Table 4.1 Socio-Demographic Characteristics of Respondents (n=185)

Socio-Demographic Characteristics	Frequency	Percent (%)
Sex		
Male	50	27.0
Female	135	73.0
Age		
21 - 30 years	5	2.7
31 - 40 years	42	22.7
41 - 50 years	79	42.7
51 - 60 years	46	24.9
Above 60 years	13	7.0
Marital Status		
Single	12	6.5
Married	120	64.9
Divorced	5	2.7
Widowed	33	17.8
Separated	15	8.1
Religion		
Christianity	118	63.8
Islam	66	35.7
Traditional	1	0.5
Ethnicity		
Yoruba	152	82.2
Igbo	18	9.7
Edo	11	5.9
Hausa	4	2.2
Educational Qualification		
No Formal Education	11	5.9
Primary	22	11.9
Secondary	70	37.8
Tertiary	82	44.3
Occupation		
Trader	55	29.7
Employed	43	23.2
Self-employed	41	22.2
Civil Servant	24	13.0
Retired	9	4.9
Unemployed	8	4.3
Artisan	5	2.7

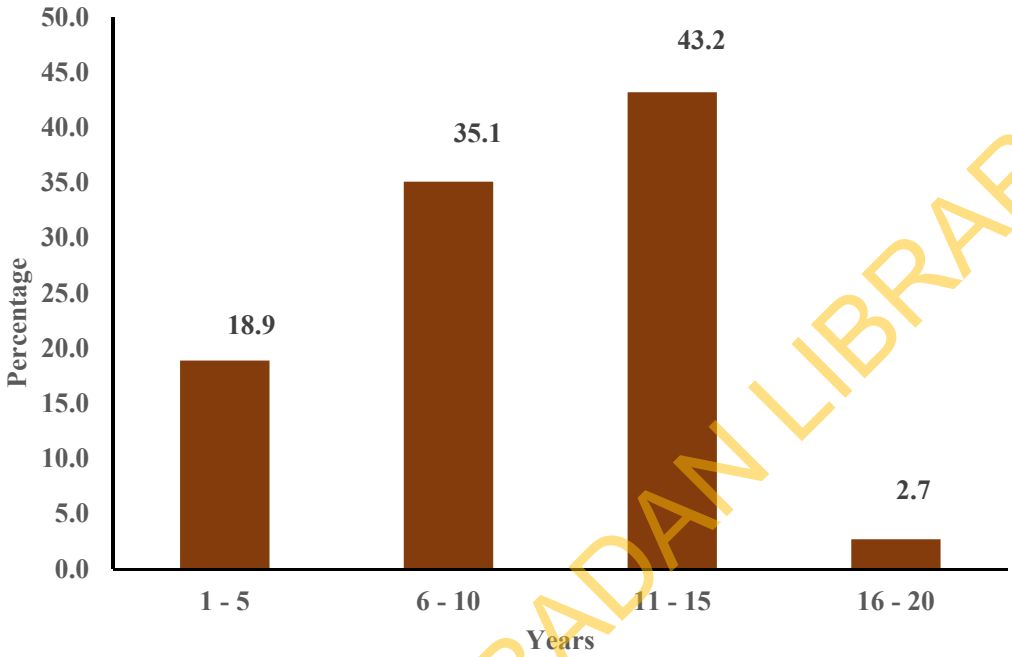

Fig 4.1 Respondents' years of managing HIV (n= 185)

4.2 Mode of operation at the community pharmacy

Respondents that preferred to get their antiretrovirals drugs refilled after working hours from 5pm till the pharmacy closes were 34.6%. Respondents (73.1%) had 3 months' appointment for refill, 82.7% of the pharmacies had waiting room with59.5% of the respondents spent about 10 minutes' average time refilling antiretrovirals. In addition,76.2% met pharmacist every time they visited but 37 of the respondents said pharmacist were sometimes absent.Most (85.4%) of the respondents received counselling at the pharmacy while 88.6% of the pharmacies had counselling areas (Table 4.2).

Table 4.2 Mode of operation at the community pharmacies

Operational hours most convenient to refill antiretrovirals	Frequency	Percent (%)
During work hours [8am-4pm]	57	30.8
After work hours [5pm upward]	64	34.6
During weekends	16	8.6
Anytime	48	25.9
Duration of appointment for refill		
1 month	7	3.7
2 months	43	23.2
3 months	135	73.1
Presence of waiting room		
Yes	153	82.7
No	32	17.3
Average time spent refilling antiretrovirals		
1 - 10 minutes	110	59.5
11 - 20 minutes	73	39.5
21 - 30 minutes	2	1.1
Met pharmacist at every visit		
Yes	141	76.2
No	44	23.8
Frequency of pharmacist'sabsence (n=44)		
Always	3	6.8
Usually	4	9.1
Sometimes	37	84.1
Receive counselling at the pharmacy		
Yes	158	85.4
No	27	14.6
Presence of counselling area		
Yes	140	75.7
No	45	24.3

4.3 Patient satisfaction towards service at the community pharmacies

The mean satisfaction score was 13.6±2.1 on a 16-point scale with 3.8% and 96.2% of the respondents had low and highlevel of satisfaction respectively (Fig 4.2). All the respondents were satisfied with working hours of the pharmacy, 83.8% were satisfied with the duration of appointment, 95.4% felt comfortable at the waiting area of the pharmacy, 82.7% were satisfied with the time spent refilling their drugs while 80.5% were satisfied with counselling time and 73.6% satisfied with the counselling area of the pharmacy shop.Also, 92.4% felt safe disclosing health information with pharmacist, 93.0% and 91.4% pharmacists respected privacy provided by during counselling and refilling respectively. Most (84.3%) of the pharmacists and 72.4% of the pharmacists' respected respondents' privacy during counselling and refilling respectively. Few (6.5%) of the pharmacy personnel showed any form of discrimination or stigmatization when providing service and only 4.3% said pharmacist tone of voice, facial expression or behavior caused them discomfort or disclosed their health information publicly. Only 13.5%respondents reported that people in the pharmacy overheard their consultation with the pharmacist while 18.9% were attended by non-pharmacist out of which 28.6% of those who were attended by non-pharmacist were not satisfied. Majority (94.1%) of the pharmacists gave enough time to listen and carefully discuss respondents' problems and 97.3% of respondents were satisfied with the cleanliness and hygienic condition of pharmacy shop (Table 4.3).

Table 4.3a Patient satisfaction towards service at the community pharmacies(n=185)

	Yes (%)	No (%)
Satisfied with the working hours of the pharmacy	185(100.0)	0 (0.0)
Satisfied with the duration of appointment	155 (30)	30 (16.2)
Feel comfortable at the waiting area of the pharmacy	146 (95.4)	7 (4.6)
Satisfied with the time spent refilling	185(100.0)	0 (0.0)
Satisfied about the counseling area of pharmacy shop	138 (74.6)	47 (25.4)
Satisfied with counselling time	149 (80.5)	26 (19.5)
Feel safe disclosing health information with pharmacist	171 (92.4)	14 (6.6)
Pharmacist respect privacy provided during counselling	172 (93.0)	13 (7.0)
Pharmacist respect your privacy when refilling	169 (91.4)	16 (8.6)
Pharmacy personnel show any form of discrimination or stigmatization when providing service	12 (6.5)	173 (93.5)
Pharmacist's tone of voice, facial expression or behavior cause you any discomfort	8 (4.3)	177 (95.7)
People in the pharmacy overhearconsultation with the pharmacist	25 (13.5)	160 (86.5)
Pharmacist ever disclosed your health information publicly	8 (4.3)	177 (95.7)
Attended to by a non-pharmacist	35 (18.9)	150 (81.1)
Satisfaction from non-pharmacist service	25 (71.4)	10 (28.6)
Pharmacist give enough time to discuss problem and listen carefully	174 (94.1)	11 (5.9)
Satisfied with the cleanliness and hygienic condition of pharmacy shop	180 (97.3)	5 (2.7)

Table 4.3b Patient satisfaction towards service at the community pharmacies(n=185)

Pharmacist respect privacy during refilling	Frequency	Percent (%)
Always	134	72.4
Usually	43	23.2
Sometimes	8	4.4
Other patients in the pharmacy overheard consultation with the pharmacist		
Always	6	3.2
Usually	8	4.3
Sometimes	12	6.5
Never	159	85.9
Pharmacist respect privacy during counselling		
Always	145	78.4
Usually	20	10.8
Sometimes	7	3.8
Never	13	7.0

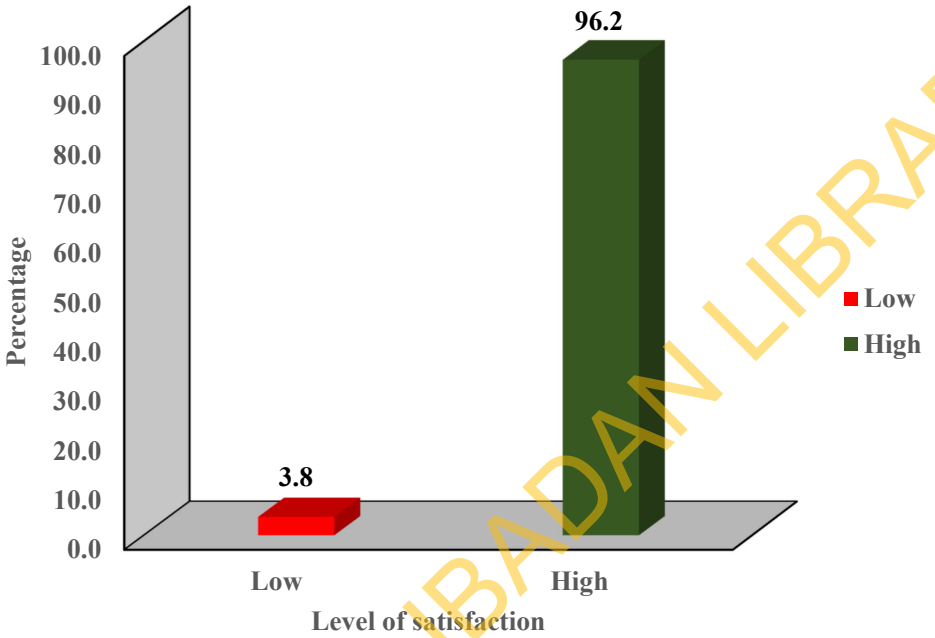

Fig 4.2 Respondents level of satisfaction towards service at the community pharmacy

4.4 Barriers to accessing care at the community pharmacy

The challenges faced by respondents include unavailability or insufficiency of drugs (9.7%), short duration of appointment (9.2%), stigmatization by staff of the pharmacy (2.7%), poor attitude of pharmacist and pharmacy staff (2.2%), non-availability of pharmacist (2.2%), pharmacist lack of HIV knowledge (1.6%), early closure of pharmacy (1.6%), charge of service fees (1.1%), language barrier (1.1%), distance to the pharmacy (1.1%) and location not suitable (1.1%) (Table 4.4a). Also, 89.2% prefer community pharmacy refill service to clinic refill service because of the flexibility of drug pick-up (69.1%) and shorter waiting time (59.4%) (Table 4.4b).

Table 4.4 Barriersto accessing care at the community pharmacy (n=36)

Challenges	Frequency	Percent (%)
Non availability/Insufficient drugs	18	50
Short Duration of Appointment	17	47.2
Stigmatization by staff of the pharmacy	5	13.9
Poor attitude of pharmacist and pharmacy staff	4	11.1
Non-Availability of Pharmacist	4	11.1
Pharmacist lack of HIV knowledge	3	8.3
Early closure of pharmacy	3	8.3
Charge of service fees	2	5.5
Language barrier	2	5.5
Distance to the pharmacy	2	5.5
Location not suitable	2	5.5

Table 4.5 Preference for refill service (n=185)

Preference for refill service	Frequency	Percent (%)
Yes	165	89.2
No	20	10.8
Reasons for preference (n=165)		
Flexible drug pick-up at the pharmacy	114	69.1
Shorter waiting time	98	59.4
Proximity to residence	79	47.9
Better privacy	39	23.6
Convenience	15	9.1

4.6 Test of hypotheses

Hypothesis 1

"There is no significant association between the duration of appointment and preference of community pharmacy for refill service"

Fishers Exact analysis revealed that there was a statistically significant association between the duration of appointment with a p-value 0.012 and preference of community pharmacy for refill service, therefore we reject the null hypothesis (Table 4.6). This shows more people with longer duration of appointment will prefer community pharmacy for refill service.

Table 4.6Association between the duration of appointment and preference of community pharmacy for refill service

Variables Duration of appointment	Preference of community pharmacy for refill service Yes	 No	Df	Fishers Exact	p-value
1 month	4 (57.1%)	3 (42.9%)	2	8.722	0.012**
2 months	36 (83.7%)	7 (16.3%)			
3 months	125 (92.6%)	10 (7.4%)			

***** Statistically significant***

4.7 Hypothesis 2

"There is no significant association between the level of satisfaction towards services and preference of community pharmacy for refill service"

Chi square analysis revealed that there was a statistically significant association between the level of satisfaction towards service at the community pharmacy with a p-value <0.001 and preference of community pharmacy for refill service, therefore we reject the null hypothesis (Table 4.7).This shows that HIV patient with high satisfaction towards service at the community pharmacy will prefer community pharmacy for refill service, that is, high level of satisfaction will lead to preference for community pharmacy for refill service for more patients.

Table 4.7Association between the level of satisfaction towards service at the community pharmacies and preference of community pharmacy for refill service

Variables	**Preference of community pharmacy for refill service**		**Df**	**X^2**	**p-value**
Level of service satisfaction	**Yes**	**No**			
Low	2 (28.6%)	5 (71.4%)	1	27.725	0.000**
High	163 (91.6%)	15 (8.4%)			

**** Statistically significant**

4.8 Hypothesis 3

"There is no significant association between satisfaction with appointment time and preference of community pharmacy for refill service"

Chi square analysis revealed that there was a statistically significant association between the satisfaction of appointment time with a p-value of 0.002 and preference of community pharmacy for refill service, therefore we reject the null hypothesis (Table4.8). This shows that HIV patient with high satisfaction towards appointment time will prefer community pharmacy for refill service which means satisfaction in appointment time will make HIV patient refill antiretrovirals more at the community pharmacy.

Table 4.8Association between the satisfaction of appointment time and preference of community pharmacy for refill service

Variables	**Preference of community pharmacy for refill service**		**df**	**X^2**	**p-value**
Satisfaction with appointment time	**Yes**	**No**			
Yes	143 (92.3%)	12 (7.7%)	1	9.336	0.002**
No	22 (73.3%)	8 (26.7%)			

***** Statistically significant***

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

The adoption of Community Pharmacy ART model (CPART) in Nigeria provides alternate HIV service delivery models towards achievement of the UNAIDS 90-90-90 target. Capability of the pharmacist as a highly skilled health worker who has capacity to be involved in public health services which essentially requires a multidisciplinary approach in the delivery of healthcare services is of public health importance.

5.1.1 Socio-demographic characteristics of respondents

Females living with HIV were more than twice the proportion of males which is corroborated by National Agency for the Control of AIDS (NACA) which revealed that females are more than twice likely to be living with HIV than male, also, Nigerian report that suggests a feminization of the HIV epidemic (Avong *et al.*, 2018; NAIIS., 2019; NACA., 2019). The mean age from the study was 47.1±9.2 years which could be the reason for many being married and are most likely to be sexually active (NACA,2019). As a result of the study area which was in south-western part of Nigeria, most were Yoruba and many were Christians.

Only few of the respondents had no formal education indicating majority of the respondents were literate. Due to the opportunity to pick up drugs at any time as compared with having to obtain workplace permission to attend refill appointment in the hospital or clinic, majority of the employed persons had a preference for the community pharmacy refill service as some of earlier identified challenges with retention in care among PLHIV include inconvenient clinic hours and long waiting time during clinic appointments which most times is in respect to their workplace. These may be barriers to accessing care by patients with busy schedules which will appeal more to patients who fall within the active labour force category and some had been managing HIV for about 11 to 15 years (FMOH, 2016).

5.1.2 Mode of operation at the community pharmacy

Teachers, civil servants as well as those employed within the private sector expressed the relief of not having to obtain workplace permission for clinic attendance as they preferred to get their antiretrovirals drugs refilled after working hours from 5pm till the pharmacy closes, this has previously been a source of stress and anxiety to them. Many explained that they would rather miss appointments than experience the shame of disclosing their HIV status. They feared that disclose of positive status may lead to job loss with subsequent financial

hardship. This is corroborated in a study which reported that one of the main reasons for defaulting from ARV refill pick up was fear of disclosing one's HIV positive status in order to avert potential stigma and discrimination (Chirambo *et al.*, 2019).

In 2016, the Federal Ministry of Health in its guidelines for prevention, treatment and care for HIV noted that long waiting times was one of the identified barriers to medication adherence and was a significant cause of poor retention rates (FMOH, 2016). According to Olorunsola *et al.* (2019), almost all of patients reported short waiting times in the community pharmacy which is similar to findings in this study where more than half of the respondents spent only about 10 minutes' averagewaiting time refilling antiretrovirals and most pharmacies had waiting room.Also, shorter waiting time was an often cited reason for preference of the community pharmacy refill model as compared with refilling drugs in the clinic, more so, in view of the fact that majority of the study participants are gainfully employed and have busy schedules competing with time spent queuing in overburdened health facilities with large patient cohorts. Long waiting time associated with high attrition among patients on ART can largely be offset by the community-based ART (Decroo *et al.*, 2013). However, for a community pharmacy, it is expected that pharmacies should always be on sit to attend to people, this study also showed that many met pharmacist every time they visit and many receive counselling at the pharmacy in the counselling area of the pharmacy so as to ensure confidentiality as it is important for the population to ensure adherence.

5.1.3 Patient satisfaction towards service at the community pharmacy

As reflected by the high mean satisfaction score of 13.6±2.1, a large number of the respondents were satisfied with the community pharmacy services which further reinforce the findings from a previous study in Abuja, Nigeria that demonstrated the feasibility of using the community pharmacy for HIV treatment maintenance (Avong *et al.*, 2018). Due to the fact that duration of appointment gives the patients the opportunity to walk in to get their refill at a convenient time, all the respondents were satisfied with working hours of the pharmacy and duration of appointment.

According to Azizz *et al.* (2018), respondents showed least satisfaction with waiting times and dispensing times which are a contrast to findings from this study which revealed that most felt comfortable at the waiting area of the pharmacy and were very satisfied with the time spent refilling their drugs but it further supported the fact that shorter waiting time in the community pharmacy as compared with that of the hospital was the most significant reason for accepting devolvement to the community pharmacy for antiretroviral refill. Patients felt safe disclosing health information with pharmacist as majority of the pharmacists respected the privacy provided during counselling and refilling services and were satisfied with counselling time and counselling area of the pharmacy shop.This finding is similar to reports from a study which showed a satisfaction with the professional manner of pharmacists since one of the domains of responsiveness of a health system where it is required that consultations with patients should be carried out in a manner that protects their privacy and that health care providers should maintain confidentiality of any information that is provided by the patient (Wirth *et al.*, 2010).

The stigma and discrimination PLHIV face can serve as a hindrance to medication adherence and retention in care, only few pharmacy personnel showed any form of discrimination or stigmatization when providing service or tone of voice, facial expression and behavior that caused any discomfort or disclosure of their health information publicly.The fear of stigmatization may limit disclosure of health information to potential sources of support, which healthcare should be provided in a manner that protects the dignity of the clients.As a result of the absence of few of the pharmacists, there were reports of being attended to by non-pharmacists which caused some level of dissatisfaction with the respondents concernedbecause they believedpeople in the pharmacy overheard their consultation and the service lacked professional counselling. Satisfaction with the counselling times which gave most respondents enough time for consultation with the pharmacist in order to resolve and clarify issues or challenges with medication use and adherence was often cited by respondents. Majority of respondents were satisfied with cleanliness and hygienic condition of pharmacy shop. The environment where healthcare is provided should include clean surroundings, adequate furniture, sufficient ventilation among others basic amenities. This is important because environmental factors may influence perception of quality, care and patient's satisfaction. This finding is similar to a study in Kano, Northern Nigeria (Iliyasu *et al.*, 2017).

5.1.4 Barriers to accessing care at the community pharmacy

The low level of reported barriers to accessing care observed suggests that the community pharmacy model is meeting the needs of the targeted clients utilizing this model for their antiretroviral refills. This is in line with the findings of Olorunsola *et al* (2019) from a study in Akwa Ibom, Nigeria which reported low barriers to accessing care at the community pharmacy and a high level of satisfaction with antiretroviral service delivery at selected community pharmacies. Moreover, this model was designed to overcome the barriers associated with using public health facilities such as long waiting times, congestion at the clinic, long distances however few of the barriers identified by the clients are pointers to the gaps in service delivery which need to be improved upon which include unavailability or insufficiency of drugs, short duration of appointment, stigmatization by staff of the pharmacy, poor attitude of pharmacist and pharmacy staff, non-availability of pharmacist, pharmacists lack of HIV knowledge, early closure of pharmacy, charge of service fees and language barrier.

The World Health Organization identifies prompt attention as one of the domains of the responsiveness of the health system and recommends that healthcare facilities should be geographically accessible, taking into account distance, transport and terrain. It also recommends that waiting times for consultation and treatment should be short and waiting times for appointments should be reasonable (Darby *et al.*, 2000), which only few mentioned distance to the pharmacy, unsuitable location and waiting time as a challenge. Flexibility of drug pick-up makes most prefer community pharmacy refill service to clinic refill service and also, those who cited better privacy as a reason for preference of the model explained that it wasn't easy for unknown persons to know the reason for consulting a pharmacy unlike visiting a standalone clinic designated for the provision of HIV/AIDS services. The advantage of being able to obtain drugs at locations nearer to their homes eliminates the barrier of distance and cost of transportation. These challenges have been documented in previous studies where it was reported that transportation costs for monthly clinic visits has been identified as a potential barrier which can compromise both ARV adherence and access to care. (Tuller *et al.*, 2010).

5.2 Implication of the findings for Health Promotion and Education

The findings of the study have several implications for planning, development, and implementation for health promotion and education on patient's satisfaction with antiretroviral refill services provided by community pharmacists. In Nigeria and other African countries, inadequate human resources for health is one of the obstacles affecting the provision of optimal patient care (FMOH, 2016). This is further worsened by the on-going brain drain of health workers who are migrating to other countries in search of greener pastures. Community pharmacies have a role to play in providing community ART services by reducing burden on patients and health care providers and contribute to the decentralization of congested clinics and hospitals. The use of these pharmacies will help reduce the distance that patients have to travel and improve retention in care which are important goals of HIV treatment. In addition, the provision of community ART services may also lead to a reduction of potential and actual stigmatization of the disease as awareness of these services becomes available in the public domain and may further alter the perception of the public about HIV/AIDS from a negative perception of a death sentence to a positive one of a disease that can be managed. This may encourage more people to be desirous of being aware of their HIV status. Furthermore, this model as a form of the differentiated care service delivery strategy or task shifting helps to reduce the burden on patients, health workers and the health system in general by addressing the high patient-to-doctor ratio, reduction of the high default rates among patients already on ART and improve patient satisfaction.

Public Enlightenment

There will be a need to create more jingles on the air in the local dialects the community can relate with on the availability of refill service in the community pharmacies and on the various process that it entails. Also, fliers and billboards with relevant information on community refill services should be produced and widely distributed which has the potential of reaching out to a large audience. Campaign enlightenment should be done on television and through social media where professionals get to discuss the availability and the advantage of this model**.**

Advocacy

Advocacy is one major public health strategy for achieving public health policy and overcoming various health problems or defining intervention strategies. This will in turn contribute to increased uptake of ART services; the spread of HIV can be minimized with sustained viral suppression and contributing to fast tracking the UNAIDS 90:90:90 strategies.

However, proper advocacy needs to be done to increase the general knowledge of this model for consistent refill services amongst people living HIV.

5.2 Conclusion

The community pharmacy antiretroviral refill service may help to improve retention in care which is critical to the overall success and impact of HIV programme thus contributing to the over-arching goal of achieving the vision of ending HIV/AIDS as a public health problem using the 90-90-90 strategy.The findings from this study suggests that the use of community pharmacies as HIV management centers can help overcome the barriers which will help to ensure the success of ARV programs in sub-Saharan Africa which further underscores the expanding role of the pharmacist in the public health arena in view of changes in health delivery services.

This study has found a high level of patient satisfaction with the community pharmacy antiretroviral refill service especially within the domains of confidentiality, waiting times, greater flexibility and convenience. It has also highlighted the feasibility of the use of community pharmacies as HIV management sites and as a service delivery model that improves access, enhances adherence, maximizes resources, improves retention and strengthens systems. Information gotten from the findings of this study would provide baseline data that can be used in subsequent quality improvement activities or interventions. Identified barriers affecting service delivery also provided information about gaps which need to be improved upon. The study therefore concludes that majority of the clients seeking HIV antiretroviral refill services from community pharmacies are satisfied with the services delivered based on the study findings. However, few clients reported dissatisfaction in areas of adequate drug supply and the show of discrimination or lack of privacy in the manner in which the services were being rendered.

5.3Recommendations

Based on the findings from the study, the following recommendations are made

1. Periodic trainings should be provided for the community pharmacists in order to update their knowledge and practice in line with the model's goals and objectives.
2. Pharmacists should ensure services are provided in a private and confidential manner so as to encourage patients to refill at the community pharmacy.

REFERENCES

Abah I.O., Nondumiso B.Q., Ncube, Hazel A., Bradely, Oche O.Agbaji and Phyllis Kanki. 2018. Aniretroviral Therapy –associated Adverse Drug Reactions and their Effects on Virologic Failure- A Retrospective Cohort Study in Nigeria. *Current HIV Research* 16(6): 436-446

Aharony L. and Strasser S. 1993. "Patient Satisfaction: what we know about and what we still need to explore *Medical Care Review*, Vol 50 No 1 49-79

Ajagu N., Anetoh M and Nduka S. 2017. Expanding HIV/AIDS care service sites: A cross sectional survey of community pharmacists' view in South-East Nigeria. *Journal of Pharmaceutical Policy and Practice, 10(1),34*

Al-Abri R. and Al-Balushi A. 2014. Patient satisfaction survey as a tool towards quality improvement. *Oman Medical Journal*. 2014; 29 (1):3-7.

Arulogun O.S., Adelekan A.L. and Olaseha I.O. 2012. 'Are Women Dying from Pregnancy Related Issues? Perceptions of Local Government Legislators in Ibadan Nigeria on Maternal Mortality and Strategies for its Reduction. *International Journal Collaborative Research on Internal Medicine & Public Health*. 4(2): 153-165

Audu B. 2013. The contribution of Pharmacy to the management of HIV patients at Maitama Distict Hospital, Abuja Nigeria. wlv. openrepository .com. Accessed December 6, 2019.

Avong Y.K., Aliu G.G., Jatau B., Gurumnaan R., Danat N. and Kayode G.A. 2018. Integrating community pharmacy into community based antiretroviral therapy program: A pilot implementation in Abuja, Nigeria. *PLoS ONE* 13(1): e019028

Aziz M.M., Wenjing Ji, Imran Masood, Muhammad Farooq,Muhammad Zubair Malik, Jie Chang MinghuanJiang, Naveel Atif, andYu Fang. 2018.Patient Satisfaction with Community Pharmacies Services: A Cross-Sectional Survey from Punjab; Pakistan. *International Journal of Environmental Research in Public Health* 15, 2914; doi:10.3390/ijerph15122914

Blake K.B., Madhavan S.S., Scott V.G. and Meredith- Elswick B.L. 2009. Medication therapy management services in West Virginia: Pharmacists' perceptions of educational and training needs. *Research in Social and Administrative Pharmacy Journal.*;5(2):182–8. [PubMed] [Google Scholar]

Blanchard K., Harrison T. and Sello M. 2005. Pharmacists Knowledge and perceptions of emergency contraceptive pills in Soweto and the Johannesburg Central Business District, South Africa, *International Family Planning Perspectives. 31(4): 172-178*

Campbell P.C., Olufunlayo T.F., and Onwenenyi A.O. 2010. An assessment of Client satisfaction with services at a model primary healthcare centre in Ogun State Nigeria. *Nigerian Quarterly Journal of Hospital Medicine 20.13-18.*

CDC 2009. Disease profile National center for HIV/AIDS, Viral hepatitis, STD and TB prevention. Atlanta GA. 7-14

Chirambo L., Valeta M. and Banda Kamanga. 2019. Factors influencing adherence to antiretroviral treatment among adults accessing care from private health facilities in Malawi. *BMC PublicHealth19:1382*

Cocohoba J.M., Murphy P., Pietrandoni G. and Guglielmo B.J. 2012. Improved antiretroviral refill adherence in HIV-focused community pharmacies. *Journal of the American PharmacistsAssociation.*; 52(5): e67-e73. doi:10.1331/JAPhA.2012.11112

Dapaah Jonathan. 2016. HIV/AIDS clients, privacy and confidentiality; The case of two health centres in the Ashanti Region of Ghana. *BMC Medica Ethics*. 17. 10. 1186/s12910-016-0123-3

Dapar M.L.P., Joseph B.N., Damun P.A., Okunlola C.R., Ahmadu E., Aya B.M. and Alphonsus P.N. 2019. Community Pharmacy based model for HIV Care and Services: Attitudes and Perceptions of practitioners in Jos Nigeria, *International STD Research&Reviews 8(2):1-10*

Darby C.,Valentine N, Murray and Amala de Silva. 2000. World Health Organization: Strategy on Measuring Responsiveness. GPE Discussion Paper Series; No 23.

Decroo T., Rasschaert F., Telfer B., Remartinez D., Laga M. and Ford N. 2013. Community-based antiretroviral therapy programs can overcome barriers to retention of patients and decongest health services in sub-Saharan Africa: a systematic review. *InternationalHealth*. 5: 169–179. doi: 10.1093/inthealth/iht016 [PubMed]

Devnani M., Gupta A.K., Wanchu A. and Sharma R.K.(2012). Factors associated with health service satisfaction among people living with HIV/AIDS: a cross sectional study at ART center in Chandigarh, India. *AIDS Care. 24: 100–7. Pmid: 21767229*

Donabedian A. 1980. The definition of quality and approaches to its assessment. Exploration in quality assessment and monitoring, Volume 1. Health Administration Press, Ann Arbor.

Dorward J., Msimango L. and Gibbs A. (2020). Understanding how community antiretroviral delivery influences engagement in HIV care: a qualitative assessment of the Centralized Chronic Medication Dispensing and Distribution programme in South Africa. *BMJ Open 2020; 10: e034412.* Retrieved October 15, 2020, from https://bmjopen.bmj.com

Doucette W. R., Kreling D. H. and Schommer J. C. 2006. Evaluation of community pharmacy service mix: evidence from the 2004 national pharmacist workforce study. *Journal of the American Pharmacists Association,* 46, 348–355.

Family Health International (FHI 360) 2018. Getting community pharmacists on the Differentiated care train in Nigeria. Strengthening integrated delivery of HIV services. Retrieved December 19 2019 from https://crowd360.org.

Federal Ministry of Health. 2016. National guidelines for HIV Prevention Treatment and Care.

Fhi 360. 2016. Community based model of differentiated care for stable patients on antiretroviral therapy to a good start in Nigeria. Retrieved from https://insidenigeria.org/community-based-model-of-differentiated-care-for-stable-patients-on-antiretroviral-art-off-to-a-good-start-in-nigeria/ . Accessed 23 March 2020.

Fullam F., Garman A.N., Johnson T.J. and Hedberg E.C.2009. The use of patient satisfaction surveys and alternative coding procedures to predict malpractice risk. *Medical Care* 47:553-55

Gaudine A, Gien L, Thuan T. and Dung V. 2010. Perspectives of HIV-related stigma in a community in Vietnam: a qualitative study. *International Journalof Nursing Studies.* 47(1):38-48.

GFATM, 2015. A Toolkit for Health Facilities: Differentiated Care for HIV and Tuberculosis. Geneva

Gilbert L. and Walker L. 2010. 'My biggest fear was that people would reject me once they knew my status...' stigma as experienced by patients in an HIV/AIDS clinic in Johannesburg, South Africa. *Health and Social Care in the Community.* 18(2):139-46.

Good Pharmacy Practice. 2006: Joint FIP/WHO Guidelines on GPP standards for quality pharmacy services.

Gorostiza I., Elizondo L.I.and Braceras I.L. 2013. HIV/AIDS screening program in community pharmacies in the Basque Country. *Gaceta Sanitaria*. 27(2):164-166. Doi: 10.1016/j.gaceta.2012.02.010.

Gourley G., Gourley D., Rigolosi E., Reed P., Solomon D. and Washinton E. 2001. Development and validation of the pharmaceutical care satisfaction questionnaire. *The American Journal of Managed Care,* 7(5):461-466

Hirsch J.D., Rosenquist A., Best B.M., Miller T.A. and Gilmer T.P.2009. Evaluation of the first year of a pilot program in community pharmacy: HIV/AIDS Medication therapy management foe Medi-Cal beneficiaries. *Journal of Managed Care Pharmacy* 15(1):32-41

IAS. 2016. Differentiated *Care for HIV: A Decision Framework for Antiretroviral*. Retrieved April 16 2020 from https://www.iasociety.org

Iliyasu Z., Abubakar I.S., Abubakar S., Lawan U.M. and Gajida A. 2010. Patient satisfaction with services obtained from Aminu Kano Teaching Hospital, Kano, Nigeria. *Nigerian Journal of Clinical Practice 13(4) 371-37*

Iyaniwura C. and Yussuf Q. 2009. Utilization of antenatal care and delivery services in Sagamu, South Western Nigeria. *African Journal of Reproductive Health.* 13. 111-22

Lopez M.I., GrantR.M andDong B.J. 2020. Community Pharmacy delivered PrEP to stop HIV transmission: An opportunity NOT to miss! *Journal of American Pharmacists Association*Retrieved October 15 2020 from https:// doi.org/10.1016/j.japhh 202001.026

Manaf N. H. and Noosi P.S. 2009. Patient satisfaction as an indicator of service quality in Malaysian public hospitals. *Asian Journal of Quality* 10: 77-87

National Agency for the Control of AIDS (NACA). 2014 National HIV/AIDS epidemiology and Impact analysis https://nacagovng/sites/default/files/FederalCapitalTerritory%20 Profile-pptpdf

National Guidelines for HIV Prevention Treatment and Care, Federal Ministry of Health, 2016.

National HIV/AIDS epidemiology and Impact analysis. (NAIIS) 2019. https://nacagovng/sites/ default/files/FederalCapital Territory%20Profile%20-pptpdf. Accessed August 7, 2019.

Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS). 2019. Federal Ministry of Health.

Oche M.O., Raji M.O., Kaoje A.U., Gana G. and Ango J.T. 2013. Client satisfaction with antiretroviral therapy services in a tertiary hospital in Sokoto, Nigeria. *Journal of Aids and HIV Research*. 5:328-333

Ofili A.N. and Ofovwe C. E. 2005. Patients' assessment of efficiency of services at a Teaching Hospital in a developing country. *Annals of African Medicine*. Vol 4, No 4.150-153

Ogunfowokan O. and Mora M. 2012. Time, expectation and satisfaction: Patient experience at National Hospital Abuja, Nigeria. *African Journal of Primary Healthcare and Family. Medicine*.4:1-6

Okonta J.M.and Ekwunife O.I. 2015. Development of a patient satisfaction questionnaire for HIV / AIDS patients in Nigeria.Accessed December 20. 2019 https://doi.org/10.1007/s11096-011-9596-9

Olorunsola E.O, Eichie F.E. and Awofisayo S.O. 2019. Antiretroviral Service Delivery at selected Community Pharmacies in Akwa Ibom State, Nigeria. *Journal of Applied Pharmaceutical Science* :9(10):092-097

Oparah A.C. and Kikanme L.C. 2006. Consumer satisfaction with community pharmacies in Warri, Nigeria. *Research in Social andAdministrative Pharmacy.* Dec;2(4): 499-511.

Orner P., Cooper D., Myer L., Zweigenthal V., Bekker L.and Moodley J. 2008. Clients' perspectives on HIV/AIDS care and treatment and reproductive health services in South Africa. *IDS Care*. 20 (10) 1217-1223

Panvelkar P., Saini B. and Armour C. 2009. Measurement of patient satisfaction with community pharmacy services; a review. *Pharmacy World Science 31:525-527*

Parasuraman A., Zeithaml V. A. and BerryL.L. 1988. SERVQUAL. A multiple–item scale for measuring consumer perceptions of service quality.*Journal of Retailing*. 64(1) 12-40.

PEPFAR, 2020. Leveraging Private Pharmacists to Expand ART Distribution, promote Adherence and Mobilize Resources. Retrieved October 20, 2020 fromwww.pepfarsolutions.org

Rosenquist A, Best BM, Miller TA, and Gilmer T.G. 2010. Medication therapy management services in community pharmacy: a pilot programme in HIV specialty pharmacies. *Journal of Evaluation in Clinical Practice.* 16(6):1142–6.

Sanders E.J, Graham S.M. and Okuku H.S. 2017. HIV-1 infection in high risk men who have sex with men in Mombasa, Kenya. *AIDS* 21: 2513-2520.

Saultz J.W. and Lochner J. 2005. Interpersonal continuity of care and care outcomes: a critical review. *Annals of Family Medicine.* 3:159-166.

Sie S.G. 2015. "Examining the service quality and patient satisfaction at Ankaase Methodist Hospital." An unpublished thesis submitted to Kwame Nkrumah University of Science and Technology in partial fulfilment of the award of Master of Business Administration.

Sing H., Haqq E. D. and Mustapha N. 1999. Patients' perception and satisfaction with healthcare professionals at primary care facilities in Trinidad and Tobago, WHO Bulletin. 77:356-360

Sullivan L.M., Stein M.D., Savetsky J.B. and Samet J.H. 2000. The doctor-patient relationship and HIV-infected patients' satisfaction with primary care physicians. *Journal of General Internal Medicine.* 2000; 15(7): 462–9. pmid:10940132

Tuller D.M, Bangsberg D.R., Senkungu J., Ware C.N., Emenyonu Nneka and Weiser DS. 2010. Transportation costs impede sustained adherence and access to HAART in a clinic population in Southwestern Uganda: A Qualitative Study. *Aids and Behavior*. Aug: 14(4):778-784

UNAIDS Data book. 2017. Available via (Accessed 26 December 2017). WHO (World Health Organization). Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Available via http://wwwwhoint/hiv/pub/arv/arv-2016/en/ Accessed 28 October 2018).

UNAIDS. 90-90-90. 2014: An ambitious treatment target to help end the AIDS epidemic. Geneva, Switzerland: UNAIDS;

Van Servellen G., Fongwa M and Mockus D'Errico E. 2006. Continuity of care and quality care outcomes for people experiencing chronic conditions: A literature review. *Nursing Health Science Journal.* 8:185-195.

WHO 2009. Guidelines for HIV diagnosis and monitoring of antiretroviral therapy. WHO project: ICP BCT 001 SEA-HLM-382 (REV-1)

WHO. 2016. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. http://wwwwhoint/hiv/pub/arv/arv-2016/en/**.** Accessed August 15 2019.

Wirth F., Tabone F., Azzopardi L.M., Gauci M., Zarb-Adami M. and Serracino-Inglott A. 2010. A Consumer perception of the community pharmacist and community pharmacy services in Malta. *Journal Pharm Health Services Res*.1:189-94

World Health Organization. 2015. HIV/AIDS fact sheet. 2015. WHOUpdated November, 2015. http://www.who.int/

World Health Organization.: Standards for quality HIV care: a tool for quality assessment, Geneva, Switzerland.https://www.who.int/hiv/pub/prev_care/en/

Wouters E., Heunis C., Van Rensburg D., and Herman M. 2008. Patient satisfaction with antiretroviral services at primary healthcare facilities in the Free State South Africa –a two-year study using four waves cross-sectional data. *BMC Health Services Research, 8 ,210-216*

Zakumumpa H., Rujumba J., Kwiringira J. and Springer N. 2020. Understanding Implementation Barriers in the national scale up of differentiated ART delivery in Uganda. *BMC HealthServices Research* 20,222.

APPENDIX 1

INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IAMRAT)
College of Medicine, University of Ibadan, Ibadan, Nigeria.

Director: **Prof. Catherine O. Falade,** *MBBS (Ib), M.Sc., FMCP, FWACP*
Tel: 0803 326 4593, 0802 360 9151
e-mail: cfalade@comui.edu.ng lillyfunke@yahoo.com

UI/UCH EC Registration Number: **NHREC/05/01/2008a**

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Patients' Satisfaction with Antiretroviral Refill Services Provided by Community Pharmacists in Ibadan Southwest Nigeria.

UI/UCH Ethics Committee assigned number: UI/EC/19/0429
Name of Principal Investigator: **Omotomilayo M. Oba**
Address of Principal Investigator: Department of Health Promotion and Education
College of Medicine,
University of Ibadan, Ibadan

Date of receipt of valid application: 02/10/2019
Date of meeting when final determination on ethical approval was made: **N/A**

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and *given full approval by the UI/UCH Ethics Committee.*

This approval dates from **20/12/2019 to 19/12/2020.** If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the* UI/UCH EC *assigned number and duration of* UI/UCH EC *approval of the study.* It is expected that you submit your annual report as well as an annual request for the project renewal to the UI/UCH EC at least four weeks before the expiration of this approval in order to avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. *No changes are permitted in the research without prior approval by the* UI/UCH EC *except in circumstances outlined in the Code. The* UI/UCH EC *reserves the right to conduct compliance visit to your research site without previous notification.*

UI/UCH EC
DEC 2019
APPROVED
COLLEGE OF MEDICINE U.I.

Professor Catherine O. Falade
Director, IAMRAT
Chairperson, UI/UCH Research Ethics Committee
E-mail: uiuchec@gmail.com

APPENDIX II

INFORMED CONSENT FORM

Title of the research

Patient's Satisfaction with antiretroviral refill services provided by community pharmacists in Ibadan, South West Nigeria.

Name and affiliation of researchers of applicant

This study is to be conducted by Mrs. Omotomilayo Oba a postgraduate student, Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan.

Sponsors of Research

Self-sponsored.

Purpose of the Study

The purpose of this research is to investigate the level of patient satisfaction with the antiretroviral refill services provided by community pharmacists.

Procedures of the Research, What shall be required of each Participant and the approximate total number of participants that would be involved in the research

A total of number of one hundred and eighty-five (185) study participants accessing antiretroviral refill services from fourteen (14) different community pharmacies will be recruited in the study. Proportionate sampling method would be used in this study. Interviewer-administered questionnaire will be used as the instrument for data collection. The data will be collected by the researcher with the help of two research assistants who will be trained prior to the time of data collection. Both the benefits and the possible harms that may arise as a result of participating in the study will be explained to the research participants. The informed consent forms will be distributed to the potential participants after they would have been given adequate information about the study. Then, after the questionnaires have been filled, the researcher will check for completeness and errors before leaving the field.

The questionnaires will be translated to Yoruba language for easy understanding by the study participants who cannot read English within the UI/UCH HIV Clinic Ibadan and also to ensure that the content and the questions in the instruments are well understood by the study participants.

Expected Duration of the Study

In total, we will expect you to be involved in this research for two months' maximum. You should not spend more than one (1) hour at each clinic visit.

Risk(s):

There is no potential risk involved in participating in this study.

Costs to participants, if any or joining the research:

Your participation in this research will not cost you anything.

Benefit(s):

The goal of this research is to find out the level of patient satisfaction with antiretroviral refill services being provided by selected community pharmacists in Ibadan. The information will help identify ways in which the services can be improved upon.

Confidentiality

All information collected in this study will be given code numbers and no name will be recorded.

This cannot be linked to you in any way and your name or any identifier will not be used in any publication or reports from this study. The nature of the study, benefits and objectives will be explained to the respondents and they will be assured that the information given would be treated

with utmost confidentiality. Respondents will also be intimated about the opportunity to withdraw their consent freely at any point during the study. Confidentiality of each participant will be maximally maintained during and after the collection of their information. Information gathered from the respondents will be stored in the computer for analysis by the researcher while copies of the filled instruments will be kept for maximum safety.

Voluntariness

Your participation in this study is entirely voluntary.

Alternative to Participation

If you choose not to participate, this will not affect your treatment in this clinic in any way

Due Inducement

You will not be paid any fees for participating in this research.

Consequences of Participant's decision to withdraw from research and procedure for orderly termination of participation

You can also choose to withdraw from the research at any time. Please note that some of the information that has been obtained about you before you choose to withdraw may have been modified or used in reports and publications. These cannot be removed anymore. However, the researchers promise to make effort in good faith to comply with your wishes as much as is possible.

What happens to research participants and communities when the research is over?

The researcher will inform you of the outcome of the research through a news bulletin. During the course of this research, you will be informed about any information that may affect your continued participation or your health.

Statement about sharing of benefits among researchers and whether this includes or exclude research participants

There will be no material benefits from the research to the participants

Any apparent or potential conflict of interest

There is no information or association that may cause the researchers not to do their work with fear or favor

Statement of person obtaining informed consent

I have fully explained this research to……..... and having giving sufficient information, including about risks and benefits to make an informed decision.

DATE…….. SIGNATURE…….

NAME……

Statement of person giving Consent

I have read and the description of the research has it translated into the language I understand. I have also discussed with the doctor to my satisfaction. I understand that my participation is voluntary. I know enough about the purpose, methods risks and benefits of the research study to judge that I want to take part in it. I understand that I may freely stop being part of this study at any time. I have received a copy of this consent any time. I have received a copy of this consent form and additional information sheet to keep for myself.

DATE…… SIGNATURE…….....

NAME……..

WITNESS SIGNATURE (If applicable)…….

WITNESS NAME (If applicable)……

Detailed contact information including contact address, telephone, fax, email and any other contact information of research(s), institutional HREC and head of the institution.

This research has been approved by the Ethics Committee of the University of Ibadan and the chairman of this committee can be contacted at Biode Building, Room 210, 2nd Floor, Institute for Advanced Medical Research and Training, College of Medicine, University of Ibadan, E-mail:**uiuchirec@yahoo.com**and **uiuchec@gmail.com .**

APPENDIX III

IWE IFITONILETI ATI FIFARAMO LATI KOPA NINU IWADI FUN AWON OLUFEJESILE

Akọle iwadii naa: ÌWÉ ÌBÉÈRÈ LÓRII ITELORUN AWỌN OLUGBATỌJU NIPA ETO BIWỌN SE HUN GBA AWỌN OOGUN TI O Ń DENA KOKORO AARUN HIV LỌDỌ AWỌN OLUTA OOGUN NINU AWỌN ILE-ITA OOGUN TI O WA NI AWỌN ADUGBO WỌN NI AGBEGBE IBADAN SOUTH-WEST, NIGERIA

Orukọ ati Ohunidanimọ Oluwadi

Iyaafin Omotomilayo Oba, ni oluwadii yii, o jẹ akẹ́ẹ́kọ́ làtí ile ìwé giga Yunifàsitì tí Ilẹ Ibádán ni ẹka tí àtí n risi eto nípa idanilẹkọọ ati igbega eto ilera, ti o wan i Kolẹẹji tí ati n se itọju pélu oogun, ni abala tí ohun risi eto ilera àwọn ara ilu

Awọn Onigbọwọ Iwadi

Oluwadi naa ni onigbọwọ ara rẹ.

Idi ti a fi ńse Iwadii Naa

Mo nse iwadi loriitelorun awọn olugbatọju nipa eto biwọn se hun gba awọn oogun ti o ń dena kokoro aarun HIV lọdọ awọn oluta oogun ninu awọn ile-ita oogun ti o wa ni awọn adugbo wọn

Awọn ilana ti Iwadi yi o tẹle, Kini ohun ti o yẹ fun Olukopa kọọkan ati odinwọn ohunka iye awọn olukopa ti yoo kopa ninu iwadii naa

Olukopa mẹrinlelogunlenigba (216) ti ao se ayẹwo lori itelorun awọn olugbatọju nipa eto biwọn se hun gba awọn oogun ti o ń dena kokoro aarun HIV lọdọ awọn oluta oogun mẹrinla (14) ninu awọn ile-ita oogun ni yio kopa ninu iwadii yii. Ọna asayan ayẹwo ti o rọrun kan ni ao lo lati muu olukopa fun iwadi naa. Ibeere bi ifọrọwanilẹnuwo ati akọsilẹ lati yàrá ayẹwo ni ao lolati se iwadii yii. Oluwadi yoo gba ọrọ silẹ pẹlu iranlọwọ awọn oluranlọwọ oluwadii meji ti yoo ao se idanilẹkọ fuun ṣaaju gbigba ọrọ silẹ. Awọn anfani ati awọn ipalara ti o ṣeeṣe ki o jẹ yọ nibi kikopa ninu iwadi yi ni ao ṣe ni alaye fun awọn olukopa ninu iwadi naa. A o fun wọn ni awọn fọomu ipinnu ifitonileti lẹhin ti wọn ba gba lati kopa, lati fun wọn ni alaye pipe nipa iwadi naa. Lẹhinna, oluwadii yi o yẹ awọn iwe ibeere ti wọn ti dahunsi lati ṣayẹwo fun pipe ati awọn aṣiṣe ṣaaju ki o to kuro ni ọdọ awọn olukopa.

Ao se aayan ogbufọ awọn iwe ibeere naa si ede Yoruba nitori awọn olukopa ti ko ba le ka ede Gẹẹsi fun oye ti irọrun awọn olukopa ti yi o was i Ile-iwosan ti Ile-ẹkọ gig ati ilu Ibadan ati lati rii daju pe akoonu ati awọn ibeere inu awọn iwe ibeere naa ye awọn olukopa daradara.

Akoko ti a da laba fun Iwadi naa

Akoko ti a da laba fun gbogbo iwadi naa ko gbọdọ ju osu meji lọ, ti akoko ibeere eyọkan ni ile-ita oogun kan ko gbọdọ ju wakati kan lọ

Awọn Ewu:

Ko si eewu kankan la ti ibi kikopa ninu iwadi yii.

Awọn Inawo ti o wa nibi kikopa, ti eyikeyi tabi fun didarapọ mọ iwadi naa:

Iwadii yii ko ni na yin ni owo kankan

Awọn Anfani:

Erongba ti iwadii yii ni lati nse iwadi loriitelorun awọn olugbatọju nipa eto biwọn se hun gba awọn oogun ti o ń dena kokoro aarun HIV lọdọ awọn oluta oogun. Eyi yoo ṣe iranlọwọ lati se amojuto awọn eto ilera.

Ifọrọpamọ ati Ibo Asiri Olukopa

Gbogbo alaye ti a ba gba ninu iwadi yii ni a o fun ni awọn ohunka idanimọ ti ko si ni orukọ olukopa ninu ọrọ ti a ba gbasilẹ. Eyi ko le satọka si yin ni eyikeyi ọna ati wipe ao ni lo orukọ yin tabi aami idanimọ ninu eyikeyi atẹjade tabi awọn ijabọ lati inu iwadi yii. Iseda iwadii, awọn anfani ati awọn ipinnu ti o wa ninu iwadi yi ni ao se lalaye fun awọn olukọ ati pe wọn yoo ni idaniloju pe alaye ti wọn fun wa yi o wa ni ipamọ. Awọn olukopa yi o ni imọ kikun nipa anfani lati yera kuro ninu iwadi yii lakoko kakooko nigba ti iwadii ba ń lọ lọwọ. Ifọrọpamọ ati ibo asiri olukopa yi o jẹ ohun amugbọ ni akoko iwadii ati lẹyin iwadii yii, ao si fi awọn esi ọrọ ti a ba gba lati ẹnu awọn olukopa pamọ sinu ẹrọ Konputa fun aabo to peye.

Ikopa Atinuwa

Ilowosi rẹ ninu iwadi yii jẹ atinuwa patapata.

Sisayan lori Ikopa

Ti o ba yan lati kopa, eyi ko nii ohun kohun see pẹlu itọju rẹ ni ile-iwosan yii ni eyikeyi ọna

Ẹbun ti o tọsi Olukopa

Iwọ ko ni gba owo eyikeyi fun kikopa ninu iwadi yii. Eyikeyi awọn owo ọya yin ti ẹ ba padanu lakoko ikopa yin ninu iwadi yii yio di sisan pada.

Awọn Abajade ti Ipinnu Olukopa lati yera kuro ninu Iwadii Ati Ilana Fun Ifopinsi Eto Kikopa

Ẹ lee yẹra kuro ninu iwadi naa nigbakugba. Ẹ jọwọ ṣe akiyesi pe diẹ ninu alaye ti a ti gba nipa yin ṣaaju ki o to yan lati yẹra kuro le ti yipada tabi lo ninu awọn ijabọ ati awọn atẹjade. Awọn wọnyi ko le see yọkuro mọ. Sibẹsibẹ awọn oniwadi ṣe ileri lati ṣa ipa ni igbagbọ lati se ohunkohun ti ẹ bafẹ.

Kini yoo ṣẹlẹ si awọn Olukopa ati awọn agbegbe ti a ti se iwadii nigbati iwadi ba pari?

Oniwadi naa yoo sọ fun yin nipa abajade iwadii naa nipasẹ iwe iroyin. Lakoko iwadi yii, ao sọ fun yin nipa eyikeyi alaye ti o le ni ipa lori kikopa yin lọwọ tabi ilera yin.

Gbólóhùn nipa pinpin awọn anfani laarin awọn oniwadi ati boya eyi kan awọn olukopa iwadi

Ko si awọn anfani kankan lati ọdọ oluwadi si awọn olukopa

Eyikeyi Ifarahan tabi Rogbodiyan Pẹlu ero Oluwadi

Ko si alaye tabi ajọṣepọ ti o le fa ki awọn oluwadi ko ṣe iṣẹ wọn pẹlu iberu tabi oju-rere

Gbólóhùn Eniyan ti o ń gba Iwe Ifitonileti ati Fifaramo lati Kopa ninu Iwadi

Mo ti ṣalaye iwadi yii ni kikun fun …… ..... ati wipe mo ti salaye to koju osuwọn fun wọn nipa awọn ewu ati awọn anfani ti o wa nibi siselati ṣe ipinnu alaye.

ỌJỌ …….. IBUWỌLUWE …….

ORUKO.....

Gbólóhùn ti Eniyan ti a ń gba Iwe Ifitonileti ati Fifaramo lati Kopa ninu Iwadi Lọwọ

Mo ti ka alaye ati ijuwe ti iwadii yii ni wọn ti tumọ si ede ti mo loye nipa . Mo ti sọrọ pẹlu dokita nipa itẹlọrun mi. O ye mi pe ikopa mi jẹ atinuwa. Mo ti mọ nipa idii, awọn ọna ati awọn anfani ti o wa fun iwadi yiidebi pe mo le se idajọ pe mo fẹ lati kopa ninu rẹ. O ye mi wipe mo le dawọ duro ti iwadi yi ba ń lọ lọwọ nigbakugba. Mo ti gba ẹda fọọmu ifọkansi yii ati iwe alaye ni afikun lati tọju fun ara mi.

ỌJỌ …….. IBUWỌLUWE ……ORUKOỌJỌ ……

IBUWỌLUWE OLUJẸRI (Ti o ba wulo) ……

ORUKỌ OLUJẸRI (Ti o ba wulo).....

Alaye lori erọ ibanisọrọ pẹlu adirẹsi olubasọrọ, tẹlifoonu, Faksi, imeeli ati eyikeyi alaye miiran nipa iwadi yi, Igbimọ ti o fi ontẹ tẹ iwe iwadii yii ati olori igbimọ.

Ti eba ni ibeere kankan nipa ise iwadi yi ni igbakugba, e le kan si awon igbimo ti o nse atunyewo Ethics Committee ti University of Ibadan ni Biode Building, Room 210, 2nd Floor, Institute for Advanced Medical Research and Training, College of Medicine, University of Ibadan, E-mail: uiuchirc@yahoo.com and uiuchec@gmail.com

APPENDIX IV

PATIENTS 'SATISFACTION WITH ANTIRETROVIRAL REFILL SERVICES PROVIDED BY COMMUNITY PHARMACISTS IN IBADAN, SOUTHWEST NIGERIA

Section A: Social Demographic Information of Respondents

1. Gender 1. Male [ ] 2. Female [ ]
2. Age as at last birthday (in years) …….
3. Marital Status 1. Single [ ] 2.Married [ ] 3. Divorced [ ] 4.Widowed [ ] 5.Separated []
4. Religion 1. Christianity [ ] 2. Islam [ ] 3. Traditional 4. Others [specify]…….
5. Ethnicity 1. Yoruba [ ] 2.Igbo [ ] 3. Hausa [ ] 4.Others……
6. Highest Level of Education 1. No Formal Education [ ] 2. Primary [ ] 3.Secondary [ ] 4. Tertiary [ ] 5. Others [Please specify] ……
7. Occupation 1. Civil servant [ ] 2.Employed [ ] 3.Retired [ ] 4. Unemployed [ ] 5. Student [ ] 6.Artisan [ ] 7. Trader [ ] 8. Self-employed [ ] 9.Others……
8. How many years have you been managing HIV? ……
9. How many community pharmacists have you made refilled from? …….

Section B: Mode of operation at the community pharmacy

10. Which operational hours do you find most convenient to refill your antiretrovirals? [1] During work hours [8am-4pm] [ ] [2]After work hours [5pm upward] [ ] [c] During weekends [d] Anytime
11. How long are appointment times given for refills? [a]1 month [b] 2 months [c] 3 months [d] 4months [e] 5 months
12. Does the pharmacy have a waiting area? 1. Yes [ ] 2. No [ ]. If no, skip to Q
13. What is the average time spent refilling your drugs? _____
14. Do you meet pharmacist at every time you visit? 1. Yes [ ] 2. No [ ]
15. If No, how often is the pharmacist absent? [a]Always [b] Usually [c] Sometimes
16. Do you receive counselling at the pharmacy? 1. Yes [ ] 2. No [ ]
17. Does the pharmacy have counselling area? 1. Yes [ ] 2. No [ ]

Section C: Patient satisfaction towards service at the community pharmacy

18. Are you satisfied with the working hours of the pharmacy? 1. Yes [ ] 2. No [ ]
19. Are you satisfied with the duration of appointment 1. Yes [ ] 2. No [ ]
20. Do you feel comfortable at the waiting area of the pharmacy? 1. Yes [ ] 2. No [ ]

21. Are you satisfied with the time you spend refilling your drugs? 1. Yes [ ] 2. No [ ]
22. Are you satisfied about the counselling area of pharmacy shop/[noise free /separate]
    Yes [ ] No[ ]
23. Are you satisfied with counselling time? 1. Yes [ ] 2. No [ ]
24. Do you feel safe disclosing health information with pharmacist? 1. Yes [ ] 2. No [ ]
25. Does the pharmacist respect your privacy provided during counselling? 1. Yes [ ] 2. No [ ]
26. If yes, how often [1] Always [2] Usually [3] Sometimes [4] Never
27. Does the pharmacist respect your privacy when refilling? 1. Yes [ ] 2. No [ ]
28. If yes, how often [1]Always [2] Usually [3] Sometimes
29. Does the pharmacy personnel show any form of discrimination or stigmatization when providing service? 1. Yes [ ] 2. No [ ]
30. Did the pharmacist's tone of voice, facial expression or behavior cause you any discomfort? 1. Yes [ ] 2. No [ ]
31. Do other people in the pharmacy overhear your consultation with the pharmacist? 1.Yes[ ] 2. No [ ]
32. How often do other patients in the pharmacy overhear your consultation with the pharmacist? [1]Always [2] Usually [3] Sometimes [4] Never
33. Has the pharmacist ever disclosed your health information publicly? 1. Yes [ ] 2. No [ ]
34. Have you ever been attended to by a non-pharmacist? 1. Yes [ ] 2. No [ ]
35. If yes, were you satisfied with it? 1. Yes [ ] 2. No [ ]
36. Does the pharmacist give enough time to discuss your problem and listen carefully to you? 1. Yes [ ] 2. No [ ]
37. Are you satisfied with the cleanliness and hygienic condition of pharmacy shop? 1.Yes [ ] 2. No [ ]

Section D: Barriers to accessing care at the community pharmacy

S/N	Have you ever encountered any of these challenges	YES	NO
38.	Poor attitude of pharmacist and pharmacy staff		
39.	Charge of service fees		
40.	Non availability/ Insufficient drugs		
41.	Language barrier		
42.	Pharmacist lack of HIV knowledge		
43.	Early closure of pharmacy		
44.	Distance to the pharmacy		
45.	Stigmatization by staff of the pharmacy		
46.	Location not suitable		
47.	Others (Specify)		

48. Do you prefer community pharmacy refill service to clinic refill service? 1. Yes [ ]
    2. No [ ]
49. If yes, why?
    1. Proximity to residence
    2 Better privacy
    3 Shorter waiting time
    4 Flexible drug pick up at the pharmacy
    5. Others (please specify)……..

APPENDIX V

ODIWỌN ITẸLỌRUN ALARUN HIV NIPASẸ IPESE ITỌJU WỌN LATI ỌDỌ AFUNNILOOGUN AGBEGBE KỌỌKAN NI IBADAN, GUUSU IWỌ OORUN NAIJIRIA.

Abala A: Ifitonileti nipasẹ irufẹ eeyan ti oludahun jẹ

1. **Ọkunrin tabi Obinrin**: 1. Akọ [ ] 2. Abo [ ]
2. **Ọjọ ori** (Iye ọmọ ọdun ti o pe gbẹyin) …….
3. **Ipo Ninu Igbeyawo**: 1. Apọn [ ] 2.Eni to ti ṣe igbeyawo [ ] 3. Tọkọtaya ti wọn ti ko ara wọn silẹ [ ] 4. Opo [ ] 5. Tọkọtaya ti wọn ti yapa lọtọọtọ [ ]
4. **Ẹsin:** 1. Onigbagbọ [ ] 2. Isilaamu / Musulumi [ ] 3. Ẹlẹsin Abalaye / Ibilẹ 4. Omiran [Ṣalaye]…….....
5. **Ẹya / Iran:** 1. Yoruba [ ] 2. Igbo [ ] 3. Hausa [ ] 4.Omiran (Ṣalaye) …….
6. **Ipele to ga julọ ti o ka iwe de:** 1. Ko ka iwe rara [ ] 2. Ile iwe Alakọbẹrẹ [ ] 3.Ile iwe Girama [ ] 4. Ile iwe Giga [ ] 5. Omiran [Ẹ jọwọ ṣalaye] ……
7. **Iṣẹ Oojọ Ẹni**: 1. Oṣiṣẹ Ijọba [ ] 2. Oṣiṣẹ lẹnu iṣẹ [ ] 3.Oṣiṣẹ-fẹyinti [ ] 4. Ẹni ti ko ni iṣẹ [ ] 5. Akẹkọọ [ ] 6.Onisẹ Owọ [ ] 7. Ontaja [ ] 8. Onisẹ-ara-ẹni [ ] 9. Omiran……
8. Ọdun kelo ree ti ẹ ti n ṣe itọju arun HIV lara yin? ……
9. Afunniloogun Agbegbe meloo ni ẹ ti lọ gba oogun ri lọwọ wọn? …….

Abala B: Itẹlorun nipa ọna ipese itọju nile igba oogun agbegbe kọọkan

10. Wakati asiko wo lo rọ Ọ lorun julọ lati fi lọ gba oogun itọju arun HIV ti o n lo fun itọju?
[a] Lasiko iṣẹ [8am-4pm] [ ] [b] Lẹyin ti o ba ti siwọ lẹnu iṣẹ [5pm lọ soke] [ ]
[c] Ni opin Ọsẹ [ ] [d] Igbkuugba [ ]

11. Gbendeke igba wo lo maa n lọ tun oogun / itọju rẹ gba? [a] Ọsu kan [b] Ọsu meji [c] Ọsu mẹta [d] Ọsu Mẹrin [e] Ọsu Marun un
12. Njẹ ile igba oogun yii ni ibudo ti o le duro si ṣaaju ki wọn to da Ọ lohun?
1. Bẹẹni [ ] 2. Bẹẹkọ [ ]. Bi wọn ko ba ni, lọ si ibeere
13. Kini afojusun odiwọn akoko ti o maa n lo ti o ba lọ gba oogun rẹ? _____
14. Njẹ o maa n ba Afunniloogun nigbogbo igba ti o ba lọ sibẹ bi?
1. Bẹẹni [ ] 2. Bẹẹkọ [ ]
15. To ba jẹ Bẹẹkọ, Odiwọn igba wo ni Afunniloogun naa ko kii fi n wa nibẹ?
[a] Nigba gbogbo [b] Nigba miran [c] Nigba kọọkan

16. Ṣe o maa n gba igbaninimọran nile igba-oogun agbegbe naa?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

17. Ṣe ile igba-oogun naa ni ibudo igbaninimọran ti a ya sọtọ?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

Abala C: Itẹlọrun awọn alaisan nipasẹ irufẹ itọju ti wọn n ri gba nile igba-oogun agbegbe kọọkan

18. Ṣe gbendeke asiko ti awọn ile igba oogun yii fi n ṣiṣẹ tẹ Ọ lọrun bi?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

19. Ṣe gbendeke asiko ti wọn fi n da Ọ lohun ti o ba kan si wọn tẹ Ọ lọrun?

1. Bẹẹni [ ] 2.Bẹẹkọ [ ]

20. Ṣe ara / oju kii ti Ọ ti o ba n duro ni ibudo yii ṣaaju ki wọn to da Ọ lohun?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

21. Bawo ni odiwọn akoko ti o maa n lo nigba ti o ba lọ gba oogun rẹ ṣe tẹ Ọ lọrun to?

1. O tẹmilọrun pupọ [ ] 2. O tẹmilọrun [ ] 3.Ko tẹmilọrun [ ] 4. Ko tẹmilọrun rara [ ]

22. Ṣe ipo ti ibudo igbani-nimọran ti ile ita oogun naa wa tẹ ọ lọrun? (Ṣe ko si ariwo / Ṣe wọn ya ibudo naa sọtọ) 1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

23. Njẹ odiwọn iye asiko ti wọn fi gba Ọ nimọran tẹ Ọ lọrun? 1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

24. Ṣe ọkan rẹ balẹ lati sọ nipa eto ilera rẹ pẹlu Afunniloogun?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

25. Ṣe Afunniloogun bọwọ to yẹ fun ifipamọ rẹ lasiko ti o n gba igbaninimọran?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

26. Ti o ba jẹ Bẹẹni, O to igba meloo?

[1] Nigba gbogbo [2] Nigba miran [3] Nigba Kọọkan [4] Ko ṣẹlẹ ri

27. Ṣe Afunniloogun naa bọwọ fun ifipamọ rẹ lasiko to n fun Ọ ni oogun rẹ?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

28. Ti o ba jẹ Bẹẹni, O to igba meloo?

[1] Nigba gbogbo [2] Nigba miran [3] Nigba Kọọkan

29. Ṣe o ṣẹlẹri ti ọṣiṣẹ ile igba oogun rẹ dẹyẹ si O nigba ti o n fi n ṣe itọju rẹ?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

30. Ṣe ohun Afunniloogun rẹ, tabi iwoye Afunniloogun rẹ tabi ihuwasi Afunniloogun rẹ ti ni Ọ lara ri? 1. Bẹẹni [ ] 2. Beeko [ ]

31. Nję ẹnikẹni nile igba oogun rẹ gbọ ọrọ ajọsọ iwọ ati Afunniloogun rẹ ri?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

32. O to igba meloo ti awon alaisan miran n gbọ ọrọ ajọsọ iwọ ati Afunniloogun rẹ?

[1] Nigba gbogbo [2] Nigba miran [3] Nigba Kọọkan [4] Ko ṣẹlẹ ri

33. Ṣe Afunniloogun rẹ ti fi igba kankan sọ aṣiri ipo ilera rẹ nita gbangba ri?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

34. Ṣe ẹnikẹni ti kii ṣe ojulowo Afunniloogun ti figba kankan da ọ lohun ri?

1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

35. Ti o ba jẹ Bẹẹni, Ṣe o tẹ Ọ lorun? 1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

36. Nję afuniloogun rẹ maa n fun ọ ni gbendeke asiko to peye lati fi jọ jiroro lori isoro rẹ; ki o si farabalẹ gbọ ohun ti o n sọ daadaa? 1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

37. Ṣe imọtoto ile igba oogun naa tẹ Ọ lọrun bi? 1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

Abala D: Idojukọ lori riri itọju gba nile igba oogun agbegbe kọọkan

S/N	Nję o ti ṣalabapade eyikeyi ninu awọn idojukọ wọnyii ri?	BẸẸNI	BẸẸKỌ
38.	Ihuwasi Afunniloogun ati awọn ọṣisẹ ile igba oogun to kudiẹ kaato		
39.	Odiwọn owo sisan fun ipese itọju		
40.	Aisi / Aito oogun		
41.	Aigbọ ede ara ẹni ye		
42.	Afunniloogun ti ko ni imọ kikun lori arun HIV		
43.	Ile igba oogun to tete n tilẹkun		
44.	Ile igba oogun to jinna		
45.	Awọn ọṣisẹ ile igba oogun to n ṣe Idẹyẹsi		
46.	Agbegbe ti ibudo igba oogun wa eyi ti ko dara to		
47.	Omiran (Ṣalaye)		

48. Ṣe gbigba itọju nile igba oogun agbegbe kọọkan tẹ ọ lọrun ju gbigba itọju nile iwosan lọ? 1. Bẹẹni [ ] 2. Bẹẹkọ [ ]

49.Ti o ba jẹ Bẹẹni, kini idi naa?

1. Nitori pe o sunmọ ile ti o n gbe
2 Nitori pe o ni ipamọ to dara ti a ya sọtọ
3 Nitori pe asiko gbendeke ti a fi n duro gba itọju kii pẹ
4 Nitori pe asiko lilọ gba oogun nile igba oogun naa rọrun
5. Omiran (JọwọṢalaye)…….