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Patient and Provider Experiences on Differentiated Antiretroviral Therapy Service Delivery Models in Addis Ababa Health Facilities: A Mixed-Methods Study

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Addis Ababa, Ethiopia

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This is to certify that the thesis prepared by Kidist Mesele Tadesse, entitled: "**Patient and Provider Experiences on Differentiated Antiretroviral Therapy Service Delivery Models in Addis Ababa Health Facilities: A Mixed-Methods Study**" and submitted in partial fulfillment of the requirements for the degree of Master of Science (Pharmaco-Epidemiology and Social Pharmacy) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee

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Abstract

Patient and Provider Experiences on Differentiated Antiretroviral Therapy Service Delivery Models in Addis Ababa Health Facilities: A Mixed-Methods Study

Kidist Mesele Tadesse

Addis Ababa University, 2024

Background: Following the World Health Organization's (WHO) recommendation of the Differentiated Service Delivery (DSD) models as a client-centered approach in 2016, Ethiopia has been implementing these models since 2017. However, there is paucity of information on the impact of the DSD model implementation in Ethiopia.

Objective: To assess patient and provider experiences with the implementation of Antiretroviral therapy (ART) DSD models in selected health facilities of Addis Ababa, Ethiopia.

Methods: A mixed-methods sequential explanatory study design was undertaken among People Living with HIV (PLWH) and healthcare professionals at 10 selected health facilities of Addis Ababa. For the quantitative study, convenient sampling was employed, while purposive sampling method was used for the qualitative study. Mann-Whitney U and Kruskal Wallis tests were performed to determine the difference in the patient satisfaction among subgroups of patients. Multivariable Tobit regression was performed to identify factors associated with patient satisfaction. Thematic analysis was used to interpret the qualitative data.

Results: Four hundred fifteen PLWH were included in the final analysis. The majority (266, 64.1%) were female and 185 (44.6%) were enrolled in Appointment Spacing Model (ASM). The median score of patient satisfaction was 76.5. Viral load count of <1000 copies/ml, high adherence level and being on first line regimen were significantly positively associated with high patient satisfaction. There was no satisfaction difference among the DSD models. The qualitative analysis documented patients' and professionals' perspectives in the areas of service efficiency, perceived patient outcomes, and integration with other chronic patient care services.

Conclusion and recommendation: The study found that patients expressed a high level of satisfaction with DSD models. Factors such as the type of regimen, patient adherence status, and viral load amount significantly influenced satisfaction. Perceived stigma with community DSD models, low awareness on DSD models, fear of detachment from the health facility, and supply

chain inconsistency were the reported barriers with ART DSD models. Majority of the study participants believed that the integration of HIV care with other chronic condition was beneficial. Policy makers, federal ministry of health, and health care providers should consider addressing the barriers associated with DSD models.

Keywords: DSD models, ART, Patient satisfaction, PLWH, integration, Ethiopia.

Acknowledgments

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Table of Contents

Abbreviations/ acronyms

AAERC	AHRI/ Alert Ethics Review Committee
ABC	Abacavir
AHD	Advanced HIV Disease
ALHIV	Adolescent Living with HIV
ART	Antiretroviral Therapy
ASM	Appointment Spacing Model
ATV	Atazanavir
AZT	Zidovudine
CAG	Community ART Group
CD4	Clusters of Differentiation 4
DIC	Drop in centers
DSD	Differentiated Service Delivery
DTG	Dolutegravir
EFV	Efavirenz
EPSS	Ethiopian Pharmaceuticals Supply Services
FTDR	Fast-Track Drug Refill
HEP-CAG	Health Extension Professional Managed Community ART Refill Group
HIV	Human Immunodeficiency Virus
KP	Key Population
3TC	Lamivudine
LMIC	Low- and Middle-Income Countries

LPV/r	Lopinavir/Ritonavir
MAC	Medication Adherence Clubs
MGLS	Morisky Green Levine Scale
MOH	Ministry of Health
NGOs	Non-governmental Organizations
OIs	Opportunistic Infections
PCAG/D	Peer Led Community ART Group/Distribution
PLWH	People living with HIV
SPSS	Statistical package for social sciences
TASH	Tikur Anbessa Specialized Hospital
TDF	Tenofovir Disoproxil Fumarate
3MMD	Three Month Multi Dispensing
WHO	World Health Organization

List of Tables

List of Figures

1. Introduction

1.1 Background

Globally, more than 39 million people are living with Human Immunodeficiency virus (HIV) infection, of which 76% are on Antiretroviral therapy (ART) (UNAIDS, 2023). With 82% of all people living with HIV (PLWH) from the Sub-Saharan Africa (SSA), Asia and the Pacific, the three regions are highly impacted by the disease (Karan et al., 2017; Teshale et al., 2022). Consequently, patients, families, and healthcare systems in the low- and middle-income countries (LMICs) in these regions face significant health and economic burdens (Lamontagne et al., 2019; Haakenstad et al., 2019). According to 2023 estimates, more than 600,000 Ethiopians were living with HIV/AIDS. In the past two decades in Ethiopia, there has been a marked decrease in prevalence from 3.3% in 2000 to 0.9% in 2017, and AIDS-related deaths decreased from 83,000 in 2000 to 9984 in 2023. Likewise, the incidence of HIV infection has also declined from 8,257 in 2022 to 7,194 in 2023 (Kibret, 2019; EPHI, 2023). However, similar to other LMICs, achieving the global target for HIV treatment, known as "95-95-95," is convoluted (Allel et al., 2022).

Achieving this goal requires a massive scale up of ART services by decentralizing the programs since there is no one-size-fits-all solution in delivering ART for all PLWH (WHO, 2021b). Innovation in HIV service delivery system have become crucial because of the widespread overcrowding and resource-constrained operating context of HIV clinics in SSA. Differentiated Service Delivery (DSD) is one such innovation introduced by WHO in 2016 (WHO, 2016). It has been defined as 'a client-centered approach that simplifies and adapts HIV services, in ways that both serve the needs of PLWH better and reduce unnecessary burdens on the health system' (WHO, 2021a). It has been shown that the models can provide benefits like reduced costs, reduced waiting time leading to client satisfaction, increased access and adherence (MOH, 2020; Brian et al., 2022). Retention in care is another important benefit to achieve and maintain viral suppression goals (Moges et al., 2020). Patient satisfaction is one of the factors that contribute to retention in treatment. Higher levels of patient satisfaction are associated with improved retention in HIV care and treatment (Baleeta et al., 2023).

Ethiopian Ministry of health (MOH) has introduced a facility-based DSD model since 2017 to focus on a single, less-intensive model: the appointment spacing model (ASM) (Getachew et al.,

2022). The ASM is being implemented in full scale whereas Health extension professional managed community ART refill group (HEP-CAG) has been piloted in Addis Ababa and Gambella starting 2018. In addition, three month multi dispensing (3MMD), fast track drug refill (FTDR), Peer Led Community ART distribution Groups (PCAD), adolescent ART group, advanced HIV disease (AHD), MCH and Key Population service delivery models were also rolled out (MOH, 2022). Although DSD has been rolled-out nationally, there is a dearth of evidence on patient perspectives on HIV care under DSD in 'real world' settings or at the frontline level of service delivery by the health professionals. There are limited studies in Ethiopia that evaluated post implementation of less intensive models (Adissu et al., 2020; Asrade et al., 2022; Belay et al., 2022a; Dibaba et al., 2021; Mantell et al., 2023; Ragea et al., 2021). Moreover, there is no previous study on post implementation evaluation of more intensive models in Ethiopia. Thus, it is crucial to find out what users think about the services that are offered and the variables that contribute to their discontent. Hence, this study aimed to assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa.

1.2 Statement of the Problem

Addis Ababa is one of the cities with highest number of PLWH in Ethiopia (MOH, 2023). Maintaining the provision of ART to large number of individuals possess a major challenge for health systems in resource-limited settings (MOH, 2018). In 2016, the WHO developed innovative service delivery models to manage the large number of individuals on ART, aiming to enhance retention in care and improve health outcomes (WHO, 2017). Both less intensive and more intensive models are implemented in Ethiopia. Of those less intensive models, ASM is available in 95% of high volume health facilities nationwide (Getachew et al., 2022). Additionally, the community DSD models, HEP-CAG and PCAD/G, have been piloted in some part of Ethiopia, including Addis Ababa since 2018 (Abebe A. et al, 2019). Moreover, in 2022, Ethiopia visited Eswatini's to learn an experience about decentralizing AHD to lower-level facilities (Getachew et al., 2022).

Although several ART DSD models, namely less intensive and more intensive models, have been adopted in Ethiopia since 2017, limited research has been done to evaluate post-implementation outcomes of the program. Additionally, even if WHO adapt a service for key populations (Pregnant women, breastfeeding, children and adolescents, patients with advanced HIV disease and female sex workers), ART delivery for stable adult patients has been the sole focus of the majority of published articles on differentiated care in Ethiopia (Abdul et al., 2024; Adissu et al., 2020; Asrade et al., 2022; Belay et al., 2022a; Dibaba et al., 2021; Mantell et al., 2023; Ragea et al., 2021; Merid F. et al., 2024). This implies that information on post-implementation evaluation of both less-intensive and more-intensive models is insufficient. Consequently, understudying the program could mask barriers that hinder its ability to achieve the WHO 95-95-95 target.

Additionally, due to mounting evidence that comorbid chronic conditions have overlapping and significant disease burdens in nations with the greatest HIV prevalence. And also both requires lifetime medical therapy just like HIV, the need for integration of comorbid chronic conditions with HIV service should be considered to enhance health outcomes (Bygrave et al., 2020). Thus, such practice should be implemented to provide care truly as a one-stop service to reduce duplication of services, costs and inconvenience for patients with multiple morbidities (Adeyemi et al., 2021). A study by Getachew et al., (2022) stated that integrating non-communicable

chronic diseases with DSD was the MOH next steps forward plan. However, limited studies had previously been undertaken to assess on service integration for PLWH in Ethiopia. Hence, this study aimed to assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa.

1.3 Significance of the Study

The finding of this study would generate ample evidence regarding the extent of implementation of the program and identify gaps to scale up the program. The findings essentially would help to strengthen and expand the implementation of various DSD models based on patient preferences on facilities that have not implemented the models yet. Additionally, the findings generated from this study will be available to researchers, and this will lead to better provision of information on barriers with the implementation of both less intensive and more intensive DSD models. Furthermore, identifying the barriers with DSD models would help to suggest the possible recommendations to improve quality of HIV care services, treatment outcomes, and enhance the achievement of the 95-95-95 global targets set out by WHO. Moreover, the finding of this study might help to give insight for further policy development on embedding other comorbid chronic conditions service into HIV care. Overall, this study would contribute to improving ART services by addressing barriers and aiding in policy development both in Addis Ababa and nationally across Ethiopia.

2. Literature Review

2.1 Epidemiology of HIV/AIDs

Out of 39 million PLWH worldwide, adult (15 years or above) age groups accounted for 37.5 million. Women and girls made up 53% of the HIV-positive population and AIDS-related illnesses claimed the lives of 630, 000 people. Around 4900 young women aged 15 and 24 acquire HIV every week. In sub-Saharan Africa, adolescent girls and young women had a risk of becoming infected with HIV more than three times higher than that of their male counterparts (UNAIDS, 2022). A total of new HIV infections (all ages) in Ethiopia was 7,194, adults living with HIV reached more than 500,000 with an annual death of 8,583. Additionally, a total of 33,026 children aged 0-14 years old live with HIV (EPHI, 2023). In 2022, 86% of PLWH were aware of their status, 89% of those who knew their status were receiving therapy and 93% of those receiving therapy were also virally suppressed (UNAIDS, 2023).

2.2 Differentiated Service Delivery models

DSD has emerged as client-centered approach to combat sub-optimal long-term retention by simplifying ART care along the cascade, guided by patient preferences and needs to reduce unnecessary burdens on individuals and the healthcare system (WHO, 2021a). Since 2016, several countries have incorporated DSD as a key component of their national policy, particularly in sub-Saharan Africa and for adults established on ART. DSD for HIV treatment is essential in recognizing the diverse requirements of PLWH (WHO, 2021b). The DSD for HIV treatment has resulted in saving patients significant amounts of cost for travel expenses, significantly decreased the amount of time needed to receive ART, including time spent traveling, waiting in line, or scheduling a clinic visit, and modestly decreased the amount of resources the health system used (WHO, 2021a). The DSD models can be based in the community or in the facility, depending on the level of client stability. The models are classified mainly into less-intensive and more-intensive DSD models. Less intensive models were designed for patients who require less frequent clinic visits that include both facility and community-based approaches. However, more intensive models were designed for patients who need close follow up and frequent clinic visits. It includes clients with opportunistic infection (OI), unsuppressed viral load, adolescents, pregnant women and those with psychosocial problems to enhance

treatment adherence and retention. All models under more intensive are facility-based, HEP-CAG and PCAD/G are community-based less intensive models (MOH, 2022).

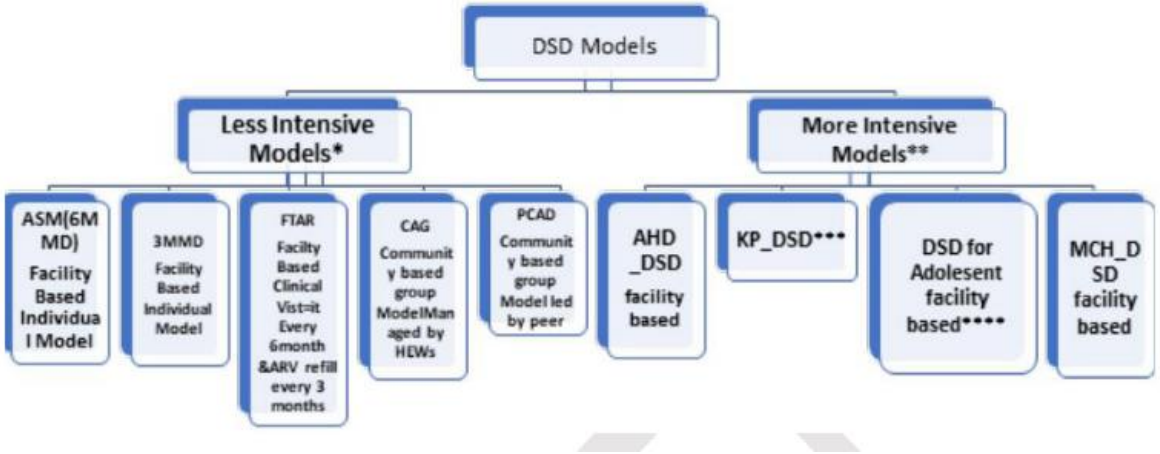


Figure 1: DSD framework in Ethiopia (MOH, 2022).

The facility-based, less-intensive models include ASM, 3MMD, and FTDR. ASM**,** also known as 6MMD, is a six-month ART dispensing model where stable clients have appointments every six months for clinical visits and medication refill (Abebe A. et al, 2019). 3MMD is another model where stable clients, who are eligible but prefer not enroll in other DSD models, have appointments every three months for clinical visits and medication refill. Additionally, FTDR is a facility-based, less intensive model where stable patients have clinical visits once every six months but collect their medication every three months from ART pharmacy (MOH, 2022).

The other two-community based, less-intensive models are HEP-CAG and PCAD/G. HEP-CAG consists of a group of six to ten stable individuals on ART living in the same community, managed by a health extension professional. The group members choose ART refill location within the community. ART refills occur every three months, with each CAG having one community refill between the six-monthly health facility visits. The group leader adjusts appointment date based on the available stock of ARVs at each client has, arranging same day refills at their preferred community site. The ART pharmacy receives a list of identified clients and pre-packs ARVs and other OI drugs prior to the refill appointment date. Similarly, PCAD operates like HEP-CAG, but group members taking turns to pick up ARVs from health facility and distribute them to other group members in the community. The healthcare workers assist in

selecting a team leader to coordinate communication between group members and the healthcare workers, and to provide ongoing adherence assessment and support at the community level. The peer leader is trained to conduct adherence assessments and monitor other events among group members (MOH, 2020).

In Ethiopia, efforts made to implement more intensive models at facilities, including AHD-DSD, DSD for key population (KP-DSD), DSD Model for adolescent living with HIV (DSD for ALHIV), and MCH DSD. All these more intensive models are facility-based. AHD-DSD includes patients with CD4 cell count <200 cells/mm3 or those with a WHO stage 3 or stage 4 event. Patient in this model is expected to visit the facility monthly. Confidentiality clinics and drop-in centers (DICs) were established in hot spot areas of major towns to provide HIV services to female sex workers. The KP-friendly services at these centers have significantly improved access to HIV prevention, care and treatment for female sex workers. Meanwhile, DSD for ALHIV offers ART refill, clinical consultation, and psychosocial support services for adolescents who have fully disclosed their status and are enrolled in the pediatric psychosocial support program. The frequency of facility visit for ALHIV is on a weekly basis. Moreover, MCH DSD targets services for mothers living with HIV and their infants with ART refills occurring every three months (MOH, 2022).

The building blocks represents the key components for constructing a differentiated model of service delivery. It centers on four questions: (1) WHEN (service frequency), (2) WHERE (service location), (3) WHO (Service provider) and (4) WHAT (Type of service). In every service delivery models, the client remains at the core (MOH, 2020) (Figure 2).

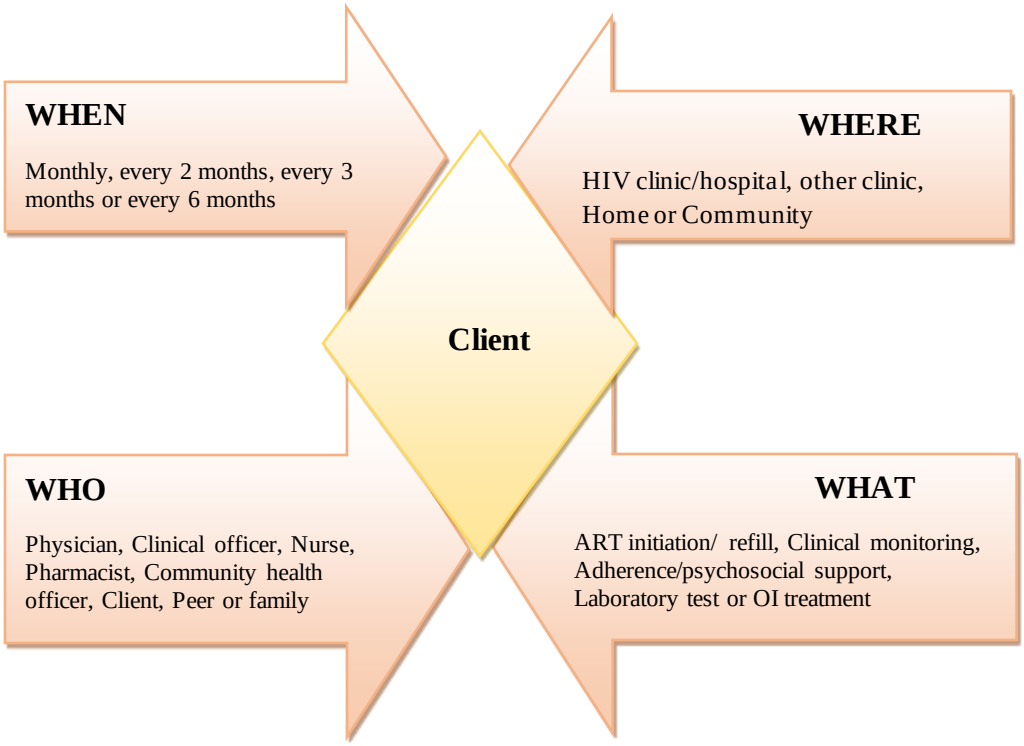


Figure 2: The building blocks of DSD modes for HIV treatment.

2.3. DSD model in terms of patient satisfaction and associated factors

Measuring patient satisfaction has important implications for planners and service providers aiming to fill up gaps and enhance the standard of treatment in the healthcare system. A study conducted in South Africa revealed that the majority of the patients were satisfied with the service they received, as indicated by a mean satisfaction score of 4.5 (SD 0.5, range 17-5.0) (De Jager et al., 2018). Another qualitative study done in Eswatini reported high levels of satisfaction in clients who decided to be in differentiated ART models (Reidy et al., 2022). Moreover, a study conducted in East Central Uganda highlighted that 64.2% of the participants were satisfied with DSD services (Baleeta et al., 2021). In addition, a study done by Badacho et al in Wolaita sodo, Ethiopia reported 70.7% of satisfaction with ART service (Badacho et al., 2023). Furthermore, a study done in Gondar, Ethiopia illustrated that 75.4% of overall satisfaction with ART service (Adissu et al., 2020).

A study conducted in Uganda, lower transport costs per clinic visit, employment status, and being single were positively associated with patient satisfaction. However drinking alcohol at least once a week was negatively associated with satisfaction (Baleeta et al., 2021). Another

study done in South Ethiopia showed a significant association between patient satisfaction with antiretroviral treatment service and sex, employment, clients' perception of the availability of prescribed laboratory services, availability of prescribed drugs and cleanliness of toilets in the facility (Badacho et al., 2023). Additionally, a study conducted by Beatrice in Kenya reported that knowledge of HIV treatment, knowledge of DSD, waiting time, perception of saving in time and cost and health care worker respect had moderate to strong relationship to satisfaction of differentiated services (Beatrice, 2021).

2.4. Barriers with the implementation of DSD models

The commonly reported barriers in a scoping review for the implementation of the DSD models were fear of perceived stigma and discrimination, low awareness of health professionals on the DSD models, and stock out of ART medicines. This review also reported challenges and enablers to the scale-up of DSD models for HIV treatment, the challenges were internalized stigma and discrimination, patients' low literacy level and providers low awareness on the benefit of the models , low awareness of patients on the community DSD models, lack of resource and insufficient time to allow the client and/or provider buy-in (Belay et al., 2022b).

A qualitative study conducted in South Africa identified barriers such as inadequate linkage to formal health systems, resource limitations and fear of stigma and discrimination (Sharer et al., 2019). A study conducted by Zakumumpa *et al.,* in Uganda categorizes barriers into two major groups. Namely, individual-level and health system barriers. Individual-level barriers were: individualized stigma and a fear of detachment from health facilities by stable patients enrolled in community based models, Health-system barriers were: insufficient training of health workers in DSD delivery and supply chain barriers to multi-month ART dispensing and patients perceived current selection of DSD models to be provider-intensive and not sufficiently patient-centered, community-level stigma and insufficient funding to providers to fully operationalize community drug pick-up points were identified limitations (Zakumumpa et al., 2020).

2.5. Benefits with the implementation of DSD models

As conducted by Belay *et al.,* the implementation of DSD models have reduced travel costs, improved adherence status, maintained retention, reduced staff workload, and reduced

overburdening of health facilities with clients. Additionally, leadership and governance related facilitators with DSD models were policies and guideline development, robust care linkages, clear referral mechanisms between the community and health facilities, provision of free care for accessing HIV-related services, and the availability of central chronic medicine dispensing and distribution programs (Belay et al., 2022b).

Another study conducted in Nigeria found that participants preferred the fast-track model due to its associated benefits, including reduced waiting time and lower costs for accessing medication (Akosile et al., 2022). A qualitative study conducted by Mantell *et al.,* in Ethiopia noted client level and health system level benefits with implementation of six-month dispensing model. Time and cost saving, fewer disruptions to work schedules, privacy and reduced stigma and improved adherence and overall health were client level benefits. While the health system benefits were improved quality of care, decongested health facilities and reduced health care workload (Mantell et al., 2023).

2.6. Integration of ART services with other chronic conditions

A study conducted in Uganda and Kenya reported, the DSD HIV treatment method was also used for the treatment of other comorbid conditions such as hypertension and diabetes with improvement of 72% of hypertension control in intervention group and 59% in the control group (Havlir et al., 2019). Similarly, a study conducted by Venables *et al.,* in Kenya reported, integrating Medication Adherence Clubs (MAC) for both HIV and Non-communicable Diseases (NCD) helped to reduce patient waiting time, the number of clinic visits, and overall patient volume of the clinic. MAC allow for the efficient management of co-morbidities and allow patients to efficiently collect their chronic medication. Additionally, it provide an opportunity for patients to benefit from peer support and health education (Venables et al., 2016). Additionally, a study conducted in Ethiopia reported that in order to ensure sustainability of integration of other chronic conditions with HIV care, different factors should be addressed (Badacho and Mahomed, 2023a).

In Ethiopia, after the implementation of various DSD models, to our knowledge limited studies were done on post implementation evaluation of ART DSD models. Although the above paragraphs showed studies assessed less intensive ART DSD models in Ethiopia, there is limited

study conducted in Ethiopia on assessing patients in more intensive ART DSD models. Therefore, the current study fills the gap by considering patients in all models irrespective of stability. Moreover, different countries in Africa have implemented and benefited from integrating ART service with other chronic conditions for patients with comorbidities. However, limited studies in Ethiopia have assessed patients' perspective on integration of the service. Therefore, the present study also aimed to assess both patients and health professional's perspectives on integration of HIV care with other comorbid chronic conditions.

3. Conceptual framework

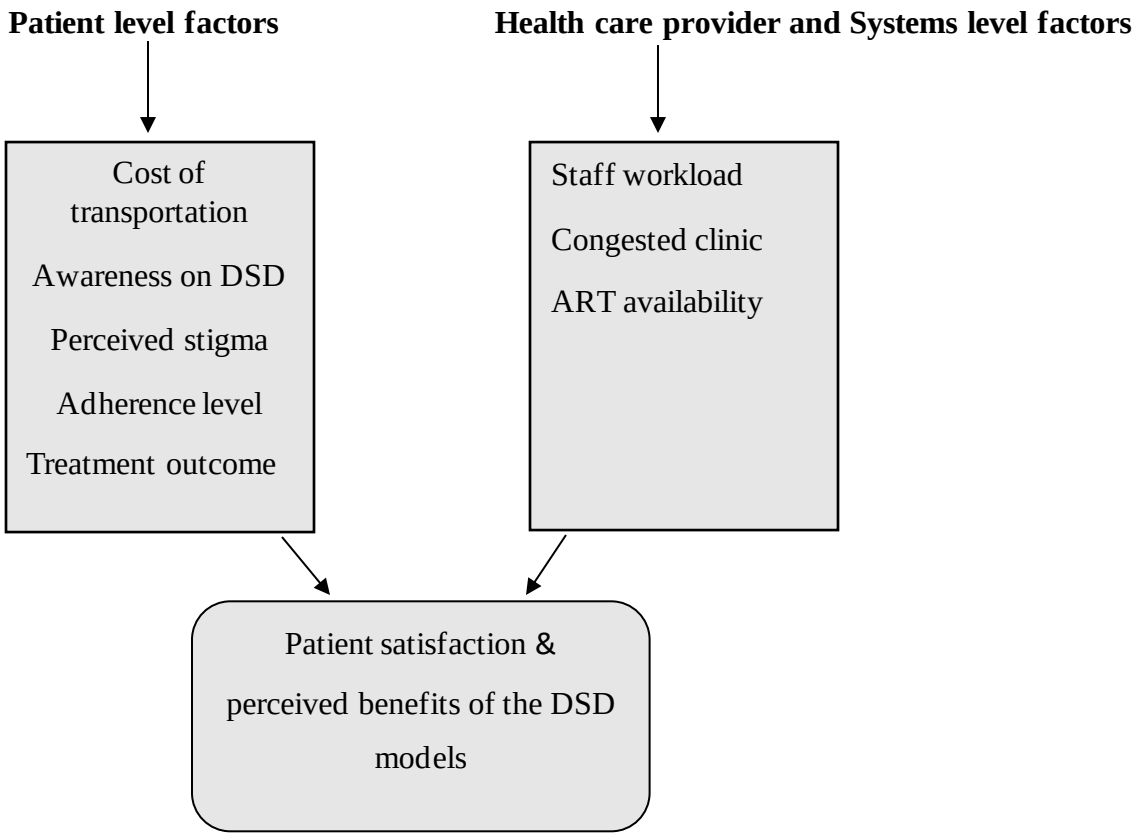


Figure 3: Theoretical domains framework for evaluation of the implementation of DSD (Belay et al., 2022c).

4. Objectives

4.1. General Objective

- To assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa.

4.2. Specific objectives

- To evaluate patient satisfaction with the DSD models in selected health facilities of Addis Ababa
- To identify factors that influence patient satisfaction with the DSD models
- To explore the perceptions of PLWH and health professionals on the benefits of the DSD models
- To assess patient and healthcare professional perspective about the integration of ART services with other comorbid chronic conditions

5. Methods

5.1. Study settings

This study was conducted in 10 selected public health facilities providing ART service in Addis Ababa. Addis Ababa is the capital city of Ethiopia with a higher burden of HIV/AIDS in the country. More than 100,000 HIV-infected adults and about 2796 children are believed to be HIV positive (EPHI, 2023). The city organized into 11 Sub-Cities and has 15 public hospitals, of which six are managed under the health bureau of the city administration, five are managed by federal MOH, one university hospital Tikur anbessa specialized hospital (TASH) which is under Addis Ababa university and two are police and army hospitals. There are also 117 Health Centers and 1045 (private clinics and diagnostic centers) in the city. Health facilities which implemented both less intensive and more intensive ART DSD models were selected purposively by looking at the list obtained from Addis Ababa health bureau. Then 10 health facilities were selected, namely, Zewditu memorial hospital, Yekatit 12 hospital medical college, TASH, Terunesh beijing hospital, St. Peter specialized hospital, St. Paul hospital medical college, Alert hospital, Addis ketema health center, Saris health center and Kotebe health center.

5.2. Study design and period

A mixed method sequential explanatory study design was conducted among PLWH at selected 10 health facilities from July - September 2023. This study design involves collecting and analyzing the quantitative followed by qualitative to triangulate the quantitative data. The rationale for mixing both kinds of data within one study is to capture the trends and details of a research problem (Ivankova, N. V. *et al.,* 2009).

5.3. Population

5.3.1 Source population

For the quantitative section, all PLWH receiving HIV care in Addis Ababa at ART clinic on those selected health facilities.

5.3.2 Study population

For the quantitative section, PLWH receiving ART with one of the DSD models at ART clinic fulfilling the inclusion criteria of the study at selected health facilities.

5.4. Inclusion and exclusion criteria

5.4.1. Inclusion criteria

- Healthcare professionals affiliated with ART services in the health facilities
- Patient who enrolled in one of the ART DSD models and at least in the program for 6 months
- Patient aged 10 and above years (Adolescents DSD age group includes 10-21 years old)
- Patient on ART follow up

5.4.2. Exclusion criteria

- Patients and health professionals who are not willing to participate in the study
- Patient with serious mental illness

5.5 Sampling

5.5.1 Sampling technique

For the quantitative section, 422 PLWH were recruited proportionally using convenient sampling methods from those 10 health facilities (Table 1).

For the qualitative section, key informants (patients and health professionals) with varied levels of experience with ART DSD models were enrolled using purposive sampling technique, to understand their perspective on the implementation of the models and on the integration of other comorbid chronic conditions with HIV care.

Table 1: Total number of patients recruited from each health facility, Addis Ababa, Ethiopia, 2023.

Name of health facility	Active patients	nxN1/N
Zewditu memorial hospital	7629	94
Alert hospital	7455	91
St. Paul hospital medical college	5151	63
TASH	3175	39
Yekatit 12 hospital medical college	3310	41
St. Peter specialized hospital	2048	25
Saris health center	1574	19
Kotebe health center	1519	19
Addis ketema health center	1404	17
Terunesh beijing hospital	1101	14

n; sample size, N; number of active patients of each health facility, N1; number of the total population of the ten health facilities

5.5.2 Sample size determination

Single population proportion formula was used to estimate the sample size (ISRAEL, G. D. 1992), considering a Z-value of 1.96 with a 95% level of confidence and 5% margin of error. The uptake of implementation of both less intensive and more intensive models is unknown in Ethiopia, hence the proportion (P) for sample size estimate was set at 50%.

$$n = \frac{(Z_{a/2})^2\, p\,(1-p)}{d^2}$$

Where

n= sample size

Z= confidence interval of 95% and a = 0.05

P= 50% (0.5) was used.

d= margin of error (d) = 5%

$n = (1.96)^2\ 0.5\ (1-0.5)/\ (0.05)^2 = 384$

Then adding 10% contingency (384x0.1=38.4) for non-respondent, the final sample size for this study was 422 (384+38.4).

The qualitative study was conducted on 24 participants (11 PLWH and 13 health professionals) using purposive sampling technique. Participants were selected for in-depth interviews based on the type of DSD model they enrolled in, gender, and age whereas health professionals were selected for key informant interviews based on their work experience, type of profession, and familiarity with ART DSD service delivery models, age, and gender. The interview continued until it reached saturation or there were no more points relevant to the objectives of the study. Initially saturation was reached after twenty-two interviews (10 PLWH and 12 health professionals). To ensure no new insight were missed, two additional individuals were interviewed. However, no new information emerged, so the interview was concluded at twenty-four.

5.6. Variables

5.6.1 Independent variables

- Socio-demographic characteristics of the participants
- Clinical characteristics of the participants
- Adherence level

5.6.2 Dependent variable

- Patient satisfaction

5.7. Data collection instruments

Multiple sources of data like survey findings, transcripts of in-depth interviews and institution visits with document reviews enable methodological triangulation and provide in-depth data for the study. Information collected under the sociodemographic part included gender, age, marital status, educational status, occupation, monthly income. Patient chart review was also done to gather information on clinical characteristics of the patients including duration on regimen, viral load, and CD4 count, types of DSD model. In addition, we collected patients' satisfaction using the Treatment Satisfaction with Medicines Questionnaire (SATMED-Q). This tool incorporates 17 questions with six main domains. Which were, Effectiveness, Side effects, Convenience and impact of medicine on daily life, medical follow up, General opinion. The instrument responses were rated using Likert-type scale. The observed total composite score (68) was converted to a

more understandable measure with a minimum of 0 and a maximum of 100 using the following expression:

$$Y' = [(Yobs-Ymin) / (Ymax-Ymin)] * 100 = Yobs * 1.471$$

where Ymax = 68 (maximum total score); Ymin = 0 (minimum total score); Yobs = total score obtained by the patient; and Y' = transformed score (Ruiz MA, 2010). Permission to use and translate the SATMED-Q questionnaire was obtained from the original developer via Mapi Research Trust with special terms number (83792). Moreover, Morisky Green Levine Scale (MGLS) tool was used to assess patient adherence level, which consists of four items (Morisky et al., 1986). Interview guide was developed by reviewing relevant literatures, in order to assess patient and health professional perspective on the implementation of ART DSD models. The patient interview guide was mainly focuses on the following four areas: overall ART service, facilitators with DSD models, challenges with DSD models, and integration of HIV care with other chronic conditions. While the health professional interview guide focuses on: the characteristics of ART clinic, facilitators to the scaling up of DSD models, challenges to the scaling up of DSD models, and integration of HIV care with other chronic conditions.

5.8. Data collection procedure

The study was conducted in two phases. During phase I, quantitative data were collected on patients' socio-demographic characteristics, clinical characteristics, barriers and facilitators with DSD models, patient satisfaction level, and patients' adherence level. In phase II, qualitative data was gathered to explore patient and health care provider perspectives on the implementation of DSD models and their perspective with integration of other chronic conditions services with HIV care using an interview guide to triangulate the information obtained from quantitative data.

For the quantitative part, two trained nurses from each facility collected the data. The data collectors were selected based on their familiarity and experience with ART services in the health facilities and half day training was given to ensure consistence of data collected. To ensure uniformity and reduce inter-observer bias, all data collectors were trained. Additionally, the study purpose was explained to all study participants before data collection. An informed written consent was obtained from all participants. Throughout the data collection process, data collectors addressed any queries raised by patients. The socio-demographic characteristics

information such as gender, age, marital status, occupation, and level of education were collected through face-to-face interviews. Information on clinical characteristics was undertaken using chart review, including height, weight, BMI, CD4 count, viral load count, current ART regimen, adherence status and type of DSD model the patient enrolled in during the study period. We collected patients' satisfaction using SATMED questionnaire. Regarding medication adherence information was collected using MGLS questionnaire. For patients who agreed to participate in the study, face to face interview was done at a separate area of the ART clinic. Informed written consent and assent from each patient were obtained prior to data collection.

For the qualitative part, in-depth interview was conducted by the principal investigator from patients and health care providers about their experience with the implementation of DSD models. The purpose of the study was explained to all study participants before data collection and informed written consent was obtained at the separate area from the ART clinic. Any queries raised about the questionnaire by patients clarified by the interviewer. The study participants (patients and health care providers) from each facility were interviewed until information saturation reached. Based on an in-depth interview guide, data was audiotaped and notes were taken to capture the information from the interview. Each qualitative interview took 15-38 minutes duration.

5.9. Data quality assurance

The data collection tool underwent a process of translation from English to Amharic and then back to English to ensure accuracy and consistency. Pretest of the tool was done on 5% of the sample before conducting the study for quantitative part and pilot study was done for the qualitative part at Kality health center. The questionnaire was reviewed and checked every day for completeness by the principal investigator throughout the data collection period. The principal investigator audiotaped and took notes at each session as a reference for the transcription. The validity of the transcribing process was ensured by consulting with supervisors. Additionally, validity was confirmed through member checking, and participants were provided with an initial analysis of the data. Accordingly, corrections were made.

5.10. Statistical analyses

Descriptive statistics (mean, SD, median, interquartile range, and frequency) was used to describe the socio-demographic and clinical characteristics of the patients. Then we checked for all major assumptions and the dependent variable was not normally distributed data (Shapiro wilk test, $p < 0.05$). Given the non-normal distribution of the data, non-parametric tests such as the Kruskal-Wallis test and the Mann-Whitney U test were employed for analysis. Mann-Whitney was used for variables with two categories while Kruskal-Wallis was used for variables with three or more categories. Kruskal-Wallis and Mann-Whitney U tests were applied to determine the differences in the satisfaction among subgroups of patients. We used patient satisfaction as dependent variable because, patient satisfaction is a crucial component of health system management techniques, in order to evaluate the effectiveness of the healthcare system quality. From non-parametric test results, dummy variables with p-value of ≤ 0.20 were reintroduced in multivariate Tobit regression. Since the dependent variable was a non-normally distributed continuous variable, multivariate Tobit regression model was performed, to identify factors associated with patient satisfaction of the ART DSD models. The quantitative data was analyzed by using statistical package for social science (SPSS) software version 25.0. Additionally, STATA version 15 software was used for multivariate Tobit regression analysis. p value of < 0.05 was considered significant.

5.11. Data analysis

The qualitative datasets derived from in-depth interviews was analyzed using thematic analysis, an important method for our research questions to organize and structure the datasets. The audio record was transcribed verbatim in Amharic, and entered into MAXQDA 12 qualitative software to facilitate data analysis. An inductive approach was used to develop codes within thematic content areas and classification of the codes into emerging themes and sub-themes, which were performed by two independent investigators (KMT and GTG) from the research team. A comprehensive set of themes and subthemes was developed after discussed with the third investigator and modified in accordance with suggestions from senior experts. Finally, developed themes and theme related participant quotes were translated into English. Direct quotes from patients were taken and included in the final report to give the flavor of the original text.

5.12. Ethical consideration

Ethical clearance (ERB/SOP/488/15/2023) was obtained from the Institutional Ethical Review Board of the Addis Ababa University and from Addis Ababa health bureau. Ethical approval was also obtained from AHRI/ALERT Ethics Review Committee. In addition, letter from SPHHMC IRB (pm/23/670) and SPSH RERC (V625/06/04/2023) was obtained. Prior to data collection, each patient and health professional were told of the study objectives and requested to give informed written consent. Additionally, for adolescent participants, assent was provided following the consent of their guardians. Both informed written consent and assent was taken from patients at a separated area from the ART clinic. Confidentiality of the participants was assured by not revealing their name in the survey, and none of their responses were linked to their identities in any way. Moreover, access to information about the collected data was restricted to the principal investigator and the advisor.

5.13. Operational definition of terms

Virological suppression: Viral load below the detected threshold using viral assay (<1000copies of viral RNA/ml of blood) after taking plasma and separated from whole blood.

Patient satisfaction: Patients with higher scores show higher satisfaction with treatment. While 68 is a maximum score and 0 is the minimum score or after transformed to a more intuitive and easier to understand metric with a minimum of 0 and a maximum of 100 (Ruiz MA, 2010).

Good adherence: If the patient missed less than 2 doses of 30 doses or less than equal to 3 doses out of 60.

Fair adherence: If the patient missed 2-4 doses of 30 doses or 4-9 doses of 60 doses.

Poor adherence: If the patient missed more than 5 doses of 30 doses or more than 10 doses of 60 doses.

MGL high adherence level: When 0 item answered “yes”.

MGL moderate adherence level: When 1–2 items answered “yes”.

MGL low adherence level: When 3–4 items answered “yes”.

6. Results

6.1. Sociodemographic characteristics of the patient

Four hundred twenty-two PLWH were participated and 415 patient data were complete which was used for final analysis. The majority (341, 82.2%) of the patients were between the age range of 22-59 years, 64.1% of them were females, 43.9%) were married, and approximately one third of the participants had secondary and above education status. The majority (298, 71.8%) were employed and 382, 92 % of them were reside in Addis Ababa (Table 2).

Table 2: Sociodemographic characteristics of PLWH on DSD Models in selected health facilities in Addis Ababa, Ethiopia, 2023.

Variables (n=415)	**N (%)**
Sex	
Female	266 (64.1)
Male	149 (35.9)
Age category	
12-21	34 (8.2)
22-59	341 (82.2)
≥60	40 (9.6)
Marital status	
Single	105 (25.3)
Married	182 (43.9)
Divorced	54 (13)
Widowed	74 (17.8)
Education status	
No formal education	24 (5.8)
Primary education	114 (27.5)
Secondary education	118 (45.3)

Higher education	89 (21.4)
Employment status	
Employed	298 (71.8)
Non employed	117 (28.2)
Residence	
Addis Ababa	382 (92)
Outside Addis Ababa	33 (8)
Monthly household income (n=379)	
≤ 3000	114 (30.1)
3001- 4500	77 (20.3)
4501- 6000	99 (26.1)
>6000	89 (23.5)

6.2. Clinical characteristics of the patients

The majority (243, 58.6%) of PLWH had normal BMI and 271 (65.3%) of them have lived with the disease for more than ten years. Furthermore, most of the patients (278, 67%) had high adherence to their treatment and from patients with comorbid conditions, hypertension accounts the largest proportion. Among the participants, 259 (62.4%) visited health facility more than twice per year and nearly three fourth (73%) of them traveled more than thirty minutes to reach the health facility. Moreover, only 2.9% encountered stock out of ART in the last one year and most 80.2 % of the patients were on first line regimen (TDF+3TC+DTG) (Table 3 and Figure 4)

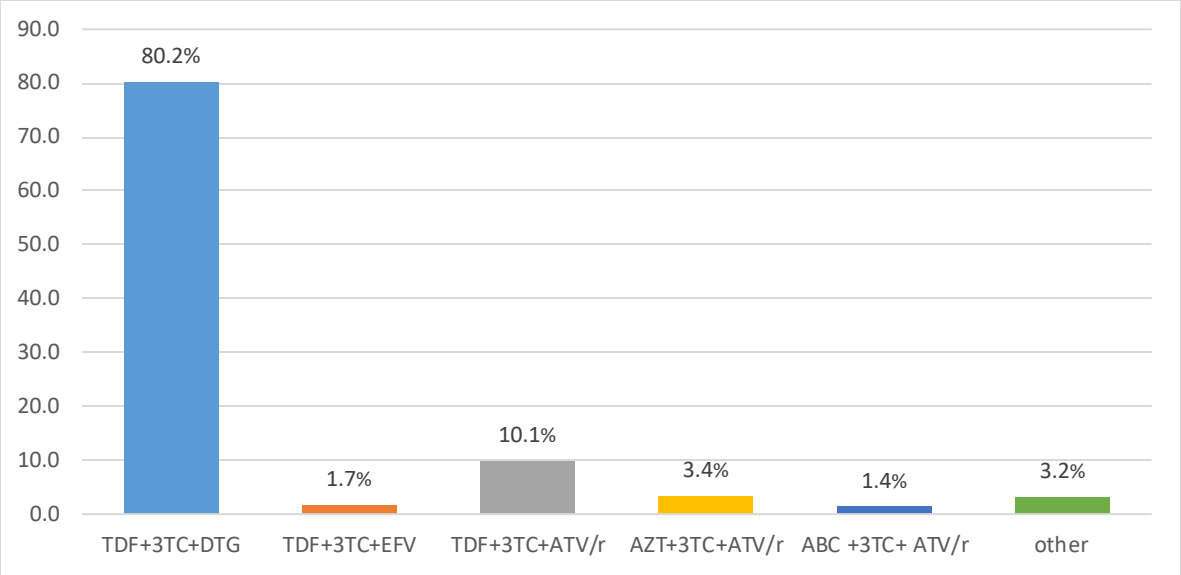
Table 3: Clinical characteristics of PLWH on DSD models service in selected health facilities in Addis Ababa, Ethiopia, 2023.

Variables (n=415)	N (%)
Body mass index	
< 18.5	34 (8.2)
18.5-24.99	243 (58.6)
25-29.99	122 (29.4)
>30	16 (3.9)
WHO clinical stage	
Clinical stage I	407 (98.1)
Clinical stage II	6 (1.4)
Clinical stage III	2 (0.5)
Viral load count	
<1000 copies/ml	402 (96.9)
≥1000 copies/ml	13 (3.1)
Duration since living with HIV	
<5 years	24 (5.8)
5-10 years	120 (28.9)
>10 years	271 (65.3)
Duration on ART	

< 5 years	26 (6.3)
5-10 years	124 (29.9)
>10 years	265 (63.9)
Duration on current ART regimen	
< 5 years	392 (94.5)
5-10 Years	20 (4.8)
>10 years	3 (0.7)
Chart adherence status	
Good adherence	387 (93.3)
Fair adherence	22 (5.3)
Poor adherence	6 (1.4)
MGL adherence	
High adherence level	278 (67)
Moderate adherence level	127 (30.6)
Low adherence level	10 (2.4)
Comorbidity (n= 96)	
Hypertension	53 (12.8)
Diabetes mellitus	31 (7.5)
High cholesterol level	4 (1)
Ischemic heart disease	3 (0.7)
Other	5 (1.2)
Opportunistic infections	
Yes	41 (9.9)
No	374 (90.1)
Clinic visit frequency per year	
> Two times	259 (62.4)
Twice	156 (37.6)
Travel time to reach the facility from home	

> 30 minutes	303 (73)
≤ 30 minutes	112 (27)
Stock out of ART	
Yes	12 (2.9)
No	403 (97.1)
Stock out of cotrimoxazole	
Yes	3 (12.5)
No	97 (87.5)
Collect medicine outside of working hour	
Yes	186 (44.8)
No	229 (55.2)
Seek care between appointments	
Yes	382 (92)
No	33 (8)

Other:* Breast cancer (*n*=2), *Kidney failure (n=2), Asthma (n=1)*

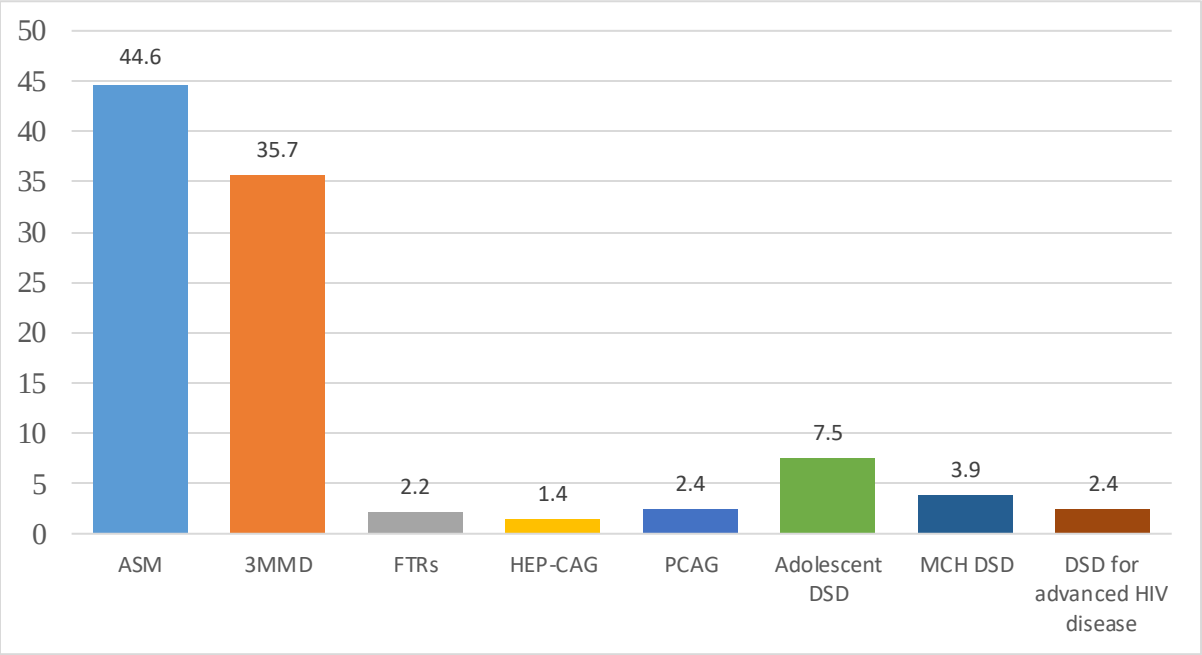


Other:* ABC+3TC+LPV/r (n=5), ABC+3TC+EFV (n=4), AZT+3TC+EFV (n=2), ABC+3TC+DTG (n=2), AZT+3TC+DTG (n=2).

Figure 4: Current ART regimen of PLWH in selected health facilities, Addis Ababa, Ethiopia, 2023.

Patient perspectives on DSD model implementation

The majority (185, 44.6%) of the patients were enrolled in ASM followed by 3MMD (148, 35.7%). Among the participants, most (78.8%) of the patients believed that the program implementation reduced frequent health facility visits. While, only 7.2% of the patients reported failing to seek care between appointments as a barrier with DSD models. Long distance travel and associated cost was the most reported attribute for patient to choose among the DSD models (Figure 5 and Table 4).



**DSD; Differentiated service delivery, ASM; Appointment Spacing model, 3MMD; Three-month ARV dispensing, FTRs; Fast track drug refill, PCAG; Peer led community-based ART group, HEP-CAG; Health Extension Professional Managed Community ART refill group*

Figure 5: Types of differentiated ART delivery model of PLWH in the selected health facilities, Addis Ababa, Ethiopia, 2023.

Table 4: Patient perceived facilitators and barriers with ART DSD models implementation in the selected health facilities, Addis Ababa, Ethiopia, 2023.

Variables (n=415)	N (%)
Facilitators while encountering ART DSD models	
Reduce facility visit frequency	327 (78.8)
Reduce travel cost	254 (61.2)
Reduce waiting time	155 (37.3)
Reduce workload for health professionals	152 (36.6)
Reduce loss to follow up	112 (27)
Improve the quality of service	85 (20.5)
Improve adherence	22 (5.3)
Other	22 (5.3)
Barriers while encountering ART DSD models	
None	321 (77.3)
Failing to seek care between appointments	30 (7.2)
Low awareness on the DSD models	28 (6.7)
Perception that more likely to forget spaced out appointments	20 (4.8)
ART supply chain inconsistency	12 (2.9)
Other	13 (3.1)
Factors affecting patient preference	
Travel distance and associated cost	149 (25.9)
None	104 (25.1)
Waiting time	97 (23.4)
Visit frequency	52 (12.5)
Other	42 (10.2)

Other:* Health professional choice (n= 33), to meet friends (n=5), Pregnancy (n= 3), to have frequent updates on health conditions (n= 1).

Patient satisfaction with the ART services

The majority of the patients reported the treatment has not interrupted their functioning. With regard to treatment effectiveness, a significant portion of the patients felt the treatment was very effective in relieving symptoms compared to their initial health status. Despite the majority of patients reported that their medication was convenient to use, with 60.2% finding it very practical, a few (1.7%) stated that difficult to take the medication because of its size. Overall, majority (72%) of the patients were satisfied with their treatment (Table 5).

Table 5: Patient opinion towards ART services, Addis Ababa, Ethiopia, 2023.

Variables (n= 415)	**Not at all**	**A little bit**	**Some what**	**Quite a bit**	**Very much**
	n (%)	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Undesirable side effect					
Interference on physical activities	392 (94.5%)	15 (3.6%)	7 (1.7%)	1 (0.2%)	0
Interference on leisure activities	391 (94.2%)	16 (3.9%)	6 (1.4%)	2 (0.5%)	0
Interference on daily activities	383 (92.3%)	20 (4.8%)	9 (2.2%)	2 (0.5%)	1 (0.2%)
Treatment effectiveness					
Relieving symptoms	2 (0.5%)	3 (0.7%)	23 (5.5%)	167 (40.2%)	220 (53%)
Time to start working	0	3 (0.7%)	18 (4.3%)	185 (44.4%)	209 (50.4%)
Feeling better	0	2 (0.5%)	9 (2.2%)	124 (29.9%)	280 (67.5%)
Convenience of use					
Practical/actual of the medication	4 (1%)	0	25 (6%)	136 (32.8%)	250 (60.2%)
Easy to use/take the medication	7 (1.7%)	3 (0.7%)	41 (9.9%)	153 (36.9%)	211 (50.8%)

Timetable taking of medication	5 (1.2%)	1 (0.2%)	7 (1.7%)	94 (22.7%)	308 (74.2%)
Impact on daily activities					
Impact on leisure and routine activities	1 (0.2%)	1 (0.2%)	9 (2.2%)	197 (47.5%)	207 (49.9%)
Impact on personal hygiene	1 (0.2%)	2 (0.5%)	7 (1.7%)	200 (48.2%)	205 (49.4%)
Impact on performing usual activities	0	1 (0.2%)	6 (1.4%)	195 (47%)	213 (51.3%)
Medical care					
Detail information of the disease	0	0	12 (2.9%)	102 (24.6%)	301 (72.5%)
Detail information on drug treatment	0	0	12 (2.9%)	104 (25.1%)	299 (72%)
General Satisfaction					
Desire to continue this treatment	0	0	2 (0.5%)	78 (18.8%)	335 (80.7%)
Comfortable with this treatment	0	0	12 (2.9%)	103 (24.8%)	300 (72.3%)
General satisfaction with this treatment	0	0	8 (1.9%)	108 (26%)	299 (72%)

The median score of patient satisfaction was 76.5. Of the SATMED domain, the median global satisfaction score of patients was 100 (Table 6).

Table 6: Patient satisfaction among PLWH attending at selected health facilities, Addis Ababa, Ethiopia, 2023.

SATMED-Q Dimension	**Number of items**	**Mean (SD)**	**Median (IQR)**
Undesirable side effect	3	2.3 (9.09)	0 (0)
Treatment effectiveness	3	87.7 (13.5)	91.7 (75-100)
Convenience of use	3	87.9 (15.8)	91.7 (75-100)
Impact on daily living	3	86.8 (13.2)	83.33 (75-100)
Medical care	2	92.3 (12.8)	100 (75-100)
Global satisfaction	3	93.3 (11.1)	100 (83.3-100)
Total satisfaction score	17	74.1	76.5 (67.65-80.88)

6.5. Patient satisfaction subgroup analysis with patient characteristics

Kruskal wallis and Mann Whitney test showed the median satisfaction score of patients with BMI of ≥ 30 and viral load of < 1000 copies/ml were significantly higher than the other groups (P= 0.87 and <0.05 respectively). The median satisfaction score of patients with high adherence and low adherence level were higher than the median satisfaction score of patients with medium adherence level (76.5 versus 75; P= <0.05). There was no significant difference in patient satisfaction among the DSD models (Table 7).

Table 7: Median (IQR) difference of satisfaction with patient demographic and clinical characteristics, 2023.

Variables	Median (IQR) score	Mean rank	P-value
Sex			
Male	76.5 (75-80.9)	216.39	0.283
Female	76.5 (64.7-80.9)	203.30	
Age category			
12-21	76.5 (64.3-79.8)	208.9	1
22-59	76 (64.7-78.3)	208.2	
≥60	76.5 (69.9-80.1)	207.7	
Marital status			
Single	76.5 (64.7-80.9)	208.37	0.255
Married	76.5 (69.1-80.9)	205.04	
Divorced	77.9 (74.6-82.4)	235.95	
Widowed	76.5 (64.7-79.4)	194.35	
Educational status			
No formal education	76.5 (66.2-80.9)	209.9	0.755
Primary education	76.5 (68.4-80.9)	210.4	
Secondary education	76.5 (64.7-80.9)	209.9	
Higher education	76.5 (70.6-80.9)	196.5	
Post graduate	82.4 (60.3-85.7)	263	
Employment status			
Government employee	76.5 (67.6-80.9)	194.65	**0.03***
NGO employee	77.9 (76.5-84.6)	293.5	

Private company employee	75 (64.7-77.9)	183.43	
Private buisness	77.9 (68.8-82.4)	228.98	
Student	76.5 (75-80.9)	214.49	
Housewife	75 (64.7-77.9)	179.69	
Other	76.5 (61.8-82.4)	210.33	
Residence			
Addis Ababa	76.5 (66.2-80.9)	205.65	0.172
Outside Addis Ababa	76.5 (75-81.6)	235.18	
BMI			
< 18.5	76.5 (73.5-79.8)	198.18	0.876
18.5-24.99	76.5 (66.2-80.9)	208.55	
25-29.99	76.5 (69.2-79.8)	207.04	
≥ 30	77.9 (61.8-82.4)	227.71	
Travel time			
10- 30 minutes	76.5 (75-82.4)	225.17	0.218
31-60 minutes	76.5 (64.7-79.4)	198.23	
1- 1:30	76.5 (70.6-80.9)	214.02	
1:31- 2hr	76.5 (64.7-79.4)	191.78	
Above 2 hours	76.5 (75-82.4)	228.37	
Clinic visit frequency per year			
Twice	76.5 (69.1-80.9)	208.52	0.945
> two times	76.5 (66.2-80.9)	207.69	
Duration on ART			
<5 years	75 (62.9-79.4)	175.9	0.366
5-10 years	76.5 (65.1-80.9)	209.8	
>10 years	76.5 (69.1-80.9)	210.3	
Comorbidity			
Yes	76.5 (67.6-80.9)	206.08	0.881
No	76.5 (66.2-80.9)	208.40	
Opportunistic infections			

Yes	77.9 (64.7-80.9)	216.42	0.629
No	76.5 (67.6-80.9)	207.05	
Viral load count			
<1000 copies/ml	76.5 (69.1-80.9)	212.38	**<0.05***
≥1000 copies/ml	60.3 (57.4-65.4)	72.62	
Regimens			
TDF+3TC+DTG	76.5 (73.5-80.9)	216.06	**0.004***
TDF+3TC+EFV	76.5 (76.5-80.9)	232.57	
TDF+3TC+ATV/r	75.7 (61.8-79.4)	183.33	
AZT+3TC+ATV/r	63.2 (60.3-77.9)	134.14	
ABC +3TC+ ATV/r	75.7 (63.6-80.9)	187.67	
Others	61.8 (51.5-76.5)	117.5	
Collect medicine outside working hour			
Yes	76.5 (74.6-80.9)	214.11	0.35
No	76.5 (64.7-80.9)	203.03	
ART stockout			
Yes	75.7 (61.8-82.4)	194.29	0.686
No	76.5 (67.6-80.9)	208.41	
Cotrimoxazole stock out			
Yes	75.7 (61.8-82.4)	37.17	0.675
No	76.5 (67.6-80.9)	43.21	
Clinial stage			
Stage I	76.5 (67.6-80.9)	209.66	0.106
Stage II	65.4 (62.9-77.6)	138.5	
Stage III	64.7 (46.3-66.5)	78.2	
Chart adherence			
Good adherence	76.5 (69.1-80.9)	209.82	0.311
Fair adherence	75 (61.4-82.4)	194.64	
Poor adherence	68.4 (59.6-77.9)	139.83	
MGL adherence			
High adherence	76.5 (75-80.9)	221.93	**<0.05***

Medium adherence	75 (63.2-80.9)	186.72	
Low adherence	76.5 (61.02-75)	91.05	
Type of DSD model			
ASM	76.5 (75-80.9)	213.90	0.73
3MMD	76.5 (63.2-80.9)	203.66	
FTR	82.4 (69.9-82.4)	242.17	
HEP-CAG	80.1 (76.1-82.4)	292	
PCAG	76.5 (76.1-77.9)	221.35	
DSD for Adolecsent	76.5 (64.7-79.4)	205.27	
MCH DSD	72.1 (65.4-77.9)	184.16	
DSD for advanced HIV disease	67.6 (57.4-82.4)	162.10	

ASM; Appointment Spacing model, 3MMD; Three- multi month ARV dispensing, FTRs; Fast track drug refill, PCAG; Peer led community-based ART group, HEP-CAG; Health Extension Professional Managed Community ART refill group

6.6. Factors associated with patient satisfaction

In multivariable Tobit regression model, the following variables made significant (p< 0.005) contribution to patient satisfaction with ART service: type of regimen, patient adherence status, and patient viral load amount. Patient with suppressed viral load amount (β = 4.83; 95% CI = .05; 9.62; p-value <0.05) and high adherence status (β= 6.02; 95% CI = 0.84; 11.19; p-value < 0.05) were significantly positively associated with patient satisfaction. While patient being on TDF+3TC+ATV/r (β = -0.87; 95% CI = -7.66; 5.91; p-value < 0.05), AZT+3TC+ATV/r (β =-4.79; 95% CI = --12.38; 2.79; p-value <0.05), and other second line regimens (β = -7.84; 95% CI = -15.73; 0.05; p-value <0.05) were significantly negatively associated with patient satisfaction (Table 8).

Table 8: Factors affecting patient satisfaction with ART service, Addis Ababa, Ethiopia, 2023.

Variables	β-Coeff. [95% CI]	P-value
Employment status (ref= NGO)		
Government	-1.20 [-4.99; 2.60]	0.696
Private business	0.73 [-2.91; 4.36]	0.695
Private company	-1.62 [-5.64; 2.40]	0.429
Student	0.84 [-3.38; 5.06]	0.696
Other	-2.14 [-6.10; 1.81]	0.287
Viral load (ref= ≥ 1000 copies/ml)		
< 1000 copies/ml	4.83 [0.05; 9.62]	**0.043***
Regimen (ref= ABC+3TC+ ATV/r)		
TDF+3TC+DTG	2.31 [-12.38; 2.79]	0.085
TDF+3TC+EFV	3.92 [-4.73; 12.57]	0.192
TDF+3TC+ATV/r	-0.87 [-7.66; 5.91]	**0.04***
AZT+3TC+ATV/r	-4.79 [-12.38; 2.79]	**0.010***
Other regimens	-7.84 [-15.73; 0.05]	**0.004***
MGL adherence (ref= Low)		
Moderate	3.13 [-2.11; 8.38]	0.240
High	6.02 [0.84; 11.19]	**0.023***

6.7. Qualitative findings

6.7.1. Characteristics of participants

A total of 24 participants (11 PLWH and 13 health professionals) were included in the in-depth interviews. The age of PLWH ranged from 20 to 58 years old, with eight of them being female. The patients' duration on the current DSD models ranged from 1.5 to 6 years (Table 9).

Table 9: Sociodemographic characteristics of PLWH for qualitative study on DSD Models in selected health facilities in Addis Ababa, Ethiopia, 2023.

Patient characteristics	Frequency (%)
Gender	
Female	8 (72.7)
Male	3 (27.3)
Age	
20-34	4 (36.4)
35-50	5 (45.5)
≥ 51	2 (18.1)
Duration on ART	
<5years	1 (9.1)
≥5years	10 (90.9)
Duration on the current DSD models	
<5years	5 (45.5)
≥5years	6 (54.5)

On the other hand, two medical doctors, three health officers, two pharmacists and six nurses constituted the professionals who took part in the in-depth interviews. Of those, majority were

female with an age range of 27 to 52 years old. The health professionals' work experience ranged from 4 to 15 years (Table 10).

Table 10 : Sociodemographic characteristics of health professional for qualitative study on DSD Models in selected health facilities in Addis Ababa, Ethiopia, 2023.

Health professional characteristics	Frequency (%)
Gender	
Female	9 (69.2)
Male	4 (30.8)
Age	
27-37	7 (53.9)
38-48	4 (30.8)
≥ 49	2 (15.4)
Type of profession	
Nurses	6 (46.2)
Health officers	3 (23)
Pharmacists	2 (15.4)
Medical doctors	2 (15.4)
Years of experience	
<10 years	7 (53.9)
≥ 10 years	6 (46.1)

6.7.2. Thematic analysis results

The inductive thematic analysis identified three major themes, namely: service efficiency, perceived patient outcomes, and integration with other chronic patient care services. These themes and their corresponding sub-themes are described in detail below.

I. Service efficiency

Service efficiency was one of the recurring themes that emerged from in-depth interviews with the patients and health professionals. Better perceived service quality, perceived reduction in stigma fears, decreased time and financial commitments for patients were the sub themes under the service efficiency theme and highlighted in the following section.

I.A Better perceived service quality

Patients indicated that the introduction of DSD models has enhanced service quality through the betterment of patient-provider communication and improved access to medicines and other supplies. The patients mentioned that they have better productive communication with their healthcare providers as reflected in the following quote:

> *"Even if some have changed, we have known each other for many years, they [the health professionals] are like my relatives. They ask me about my health status and if I took my medications correctly. Their greeting and love is always with me" (40 years old female on HCAG).*

Both patient and health professional respondents reported that they have experienced a steady supply of ART medicines. The following quotes reflect this:

> *"It used to be said that there was a drug shortage 4 or 5 years ago, but now I haven't faced any availability issue. We are taking our medications properly" (58 years old female on ASM).*

> *"We have not faced ART drug shortage. We also have cotrimoxazole syrup in our clinic" (36 years old female nurse)".*

In contrast, patients and professionals reported experiencing shortage of some products such as nutritional supplements, second- and third-line ART medicines and laboratory reagents. Examples of such cases have been illustrated in the following quotes:

> *"[...] It would be good if something is given, even Plumpy nut is not enough now. Priorly, it was available, but now they say it's not" (40 years old female patient on H-CAG).*
>
> *"[...] second line and third line regimens are not available to be dispensed for more than 3 months and 1 month, respectively. There are a lot of patients asking me to be enrolled in ASM and also CAG, however they can't be enrolled because of a problem with the supply chain"* (*39 years old female health officer*).
>
> *"[...] reagents were not available all the time, but now they have been fixed. CD4 works here in our facility, but other laboratory examinations such as CBCs were cut off recently. It is very difficult to say that our laboratory is fully functional" (27 years old female nurse).*

Respondents identified major enabling factors for the enhanced quality of service and steady supply of medicines. Better documentation practices related with ART DSD models and supporting NGOs for the implementation and sustainability of the models were reported by most of the health care providers as explained below:

> *"[...] there are supporting organizations. If we look at Addis Ababa, there are different local NGOs that help with the service*" *(28 years old female nurse).*

I.B. Perceived reduction in stigma fears

Among all patients in the present study, perceived stigma with their HIV status was highly reduced due to the ART DSD models. The model reduced their clinic visit, which helped them not to be seen by other people repeatedly at the health facility, one community group leader reported that:

> *"[...] I think it is beneficial for those people who are afraid to go and take their medication from the facility. Since we take the medications to their house as friends, there is no issue with being seen by other people. I think it is useful for those kinds of people" (50 years old female on PCAD).*

However, health professionals reported that patients quit the community group with fear of being seen by other people they know in the community. Confidentiality and disclosure issues eventually impaired the implementation of CAG and PCAD in some facilities. This was illustrated as follows:

> *"[...] CAG and PCAD are very difficult for us, some patients withdraw after being enrolled in the models by reporting someone from the community saw them. So, it's a little difficult to implement the community models" (52 years old female health officer).*

I.C. Decreased time and financial commitments for patients

Patients reported decreased time and financial commitments due to lowered patient waiting time and less frequent health facility visit. Regarding waiting time, many patients have found that not visiting the facility on a monthly basis eliminates concerns about long waiting hours at the clinic and potential inconveniences related to job commitments. For many patients, the less frequent appointments also meant lesser transportation and related costs. The following quotes illustrate these points:

> *"[...] since the appointment is much longer than it used to be. It got rid of all my worries associated with longer waiting time at the facility (50 years old male on ASM).*

> *"I don't have a work permit, I used to be worried for days when my appointment reached because of how busy I get, but now the community provider brings me the medications every 3 months or 6 months at my community" (40 years old female on HCAG).*

> *"There were times that I have spent the whole day at the facility without eating not even a biscuit, because I didn't have money in my bag; by thinking of getting back soon and eat" (40 years old female patient on H-CAG).*

Despite the benefits the longer duration between appointments, some health professionals mentioned that some of their patients experienced a feeling of detachment from the health facility due to the spaced nature of ART DSD model appointments, which was stated as follows:

"[...] even if they don't have a problem with storage area, there were patients who get overwhelmed with the idea of not visiting the facility on monthly basis" (39 years old female health officer).

II. Perceived patient outcomes

Patient outcome after the implementation of ART DSD model was described in terms of the effect of the models on patient adherence, satisfaction with care and clinical outcomes. Patients mentioned that the peer support mechanisms imbedded in the DSDs models helped them improve adherence to their medications. The following quote describes this well:

"If one of our members said that he forgets to take his medication or a minute will pass, we make a phone call and remind him 1 or 5 minutes earlier to take his medication…" (20 years old male on Adolescent DSD).

Moreover, patients reported that they were satisfied with the service as it helped them to maintain their health. The following quote explained it:

"I am very happy with the new model, it has helped me to maintain my health by ensuring that longer appointments are reserved for those with better health status" (49 years old female patient on ASM).

Furthermore, some patients perceived the models helped them to improve on their treatment outcome compared to previous standard care. They have reported improvement in their CD4 count, viral load count and also reduced risk of getting other communicable diseases as a result of reduced frequent contact with the health facility environment. The following quotes describe this:

"[...] before this community model was implemented, I used to get flu or cold because of visiting the facility more frequently" (40 years old female on HCAG).

III. Integration with other chronic patient care services

In the current study, it was found that most of the hospitals have implemented the integration of HIV care with the services for other comorbid chronic conditions. However, patients and health professionals from facilities which never implemented the service were also asked for their

perspective on integrating the services. While many of the patient and health professional respondents supported integration due to its perceived advantages, there were others who were not in favor of the idea. The reasons for both opinions are described below:

III.A. Perceived advantages of integration

The time saving nature of integrated services and the convenience of a one stop service were identified as the major advantages of integration. Saved time due to the absence of having to go to multiple places in the health facility and potential reductions in waiting time were identified advantages of integration as described by both patients and health professionals. This is illustrated in the following quotes *"It saves time and is also good for work, because it saves you from the fatigue of wandering to go anywhere" (50 years old female on fast truck).*

> *"[...] in terms of saving energy, time and waiting time, it's good to have all the services together here in the ART clinic" (35 years old male Doctor).*

> *"[...] if all services could be provided from here, we can finish everything at once and leave in time; which will save time, energy and money" (51 years old male patient on ASM).*

III.B. Perceived disadvantages of integration

The voices against integration of ART services with other chronic patient care cited potential problems with the facility auditing system and challenges in ensuring patients' confidentiality. This was described in the following quote:

> *"It could complicate the hospital auditing system. Meaning, the chronic medications that must be passed through the OPD pharmacy are going to pass through ART pharmacy too, which requires a new system" (35 years old male pharmacist).*

> *"[...] incorporating non-health professional personnel like a cashier at ART pharmacy would also make patients uncomfortable as they may be worried about confidentiality issues" (35 years old male pharmacist).*

7. Discussion

The aim of this study was to assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa. Our findings demonstrated that median satisfaction with DSD models was 76.5. Suppressed viral load, high adherence level and being on first line regimen were significantly associated with high patient satisfaction with the DSD model. From the qualitative part, various benefits and barriers were identified with implementation of DSD models. Concerning integration, time saving, reduce in waiting time and improve in satisfaction level were the stated benefits with the integration of HIV care with comorbid chronic conditions. However, problem with the facility auditing system was reported as a challenge with integrating the services.

The median satisfaction with DSD models was 76.5 which indicates that PLWH were satisfied with the new ART service. Given the satisfaction result computed in median, we had no previous data with which to directly compare this number. However, a study done in Gondar (75.4%) (Adissu et al., 2020), Tigray 75.2% (Atsebeha and Chercos, 2018), and Harar 76.9% (Mekonnen et al., 2021) shows a positive trend on patient satisfaction with ART services. The finding of the present study reveal that majority of participants were satisfied. This emphasizes the practice should be continued, and satisfaction could be further increased if the identified barriers are addressed.

The reasons for high satisfaction in our study could linked with facilitators reported by the present study. The qualitative finding of this study revealed that reduction in travel and associated cost per clinic visit as a facilitator with the implementation of DSD models which augmented with the quantitative finding of the present study that 61.2% of the patients believe DSD models reduced travel and associated expenses. This shows that the implementation of ART DSD models subsidized cost for accessing HIV care services which in turn could lead to high satisfaction. The satisfaction could also be due to enhanced communication with health professionals. Our qualitative finding showed that better productive communication of patients with their healthcare providers. Concerning stigma, all patients stated that reduction of perceived stigma with their HIV status as the models reduced their clinic visit. This finding was consistent with a study done in South Africa (Sharer et al., 2019) and Ethiopia (Mantell et al., 2023). Regarding time, patients mentioned that the DSD models have benefited them by reducing:

waiting time, frequency of facility visit and disruptions to work; as their appointment date was longer from the standard HIV care. This was also consistent with the quantitative finding of the present study; as 78.8% of the patients reported a reduction in facility frequency visit and 37.3% reported reduced waiting time as a facilitator with implementation of DSD models. These findings were in keeping with a scoping review of fifty-seven articles done in Africa (Belay et al., 2022b). This implies that the implementation of the models enabled patients to manage their time more efficiently, which in turn, could leads to higher satisfaction.

Another facilitator of DSD model's implementation was a steady supply of ART medicines and other supplies (i.e., documents and supporting NGOs). Most of the patients in this study never reported a problem with ART medicines availability and it was also confirmed by the health professionals. Additionally, the availability of different supporting NGOs for providing the service was reported as a facilitator by the health care professionals. Similarly, drug availability was the stated enabler in a study done in Northwest Ethiopia (Belay et al., 2022a). Therefore, maintaining the supply chain, service-related documents, and supporting NGOs smoothed the service provided at ART clinic.

Despite majority satisfied with the DSD models, some patients were dissatisfied. The reason for dissatisfaction could be due to supply chain inconsistency and low awareness on DSD models, which includes perception of failing to seek care between appointments and feeling detached with healthcare system as they stay away from the health facilities as illustrated by the qualitative part. Our quantitative study was also demonstrated that failing to seek care between appointments (7.2%) and low awareness on the DSD models (6.7%) were the major challenges raised with the key informants, which our qualitative findings support. This is consistent with studies conducted in Southern Nigeria (Akosile et al., 2022), Uganda (Zakumumpa et al., 2020), Malawi (Pellecchia et al., 2017), and Northwest Ethiopia (Belay et al., 2022c). Therefore, this implies effort is needed to improve patient awareness on community DSD models to benefit patients, health care providers, and the health care system. Health care providers can improve patient awareness by organizing regular educational workshops on ART DSD models, using visual aids and interactive sessions to make the information more engaging. Additionally, establishing peer support groups can enhance patient awareness by allowing patients to share their experiences and learn from each other.

The other reported barrier highlighted by the health professionals was stigma associated with the community DSD models; as some patients fear breach of confidentiality in the community. Patient's fear of being stigmatized makes them prefer to go to the facility directly rather than receiving care at their community as illustrated by the qualitative part of this study. This makes them miss the benefits associated with CAG and PCAD models. The stigma reported with ART community DSD models could be resolved by letting patients to join the group other than their residence. Regarding supply chain inconsistency, there is a need for sustainable supply of those specific ART regimens, since all the differentiated models should be accessible to all candidate patients. Patient dissatisfaction with the healthcare service can lead to non-adherent behavior, resulting in an unsuppressed viral load, which ultimately hinders the achievement of the WHO 95-95-95 goals.

On the other hand, both patients and healthcare providers reported the benefits of integration of other chronic conditions with HIV care, which includes saving time and the convenience of a one stop service which in turn reduces waiting time. This finding was consistent with a study done in Southern Ethiopia, which reported integration of non-communicable diseases service with HIV care would help save patient time by reducing multiple visits for different services (Badacho and Mahomed, 2023b). Additionally, patients and healthcare providers in Tanzania study also illustrated that time saving was associated with the service integration (Shayo et al., 2022). Moreover, a study done in Kenya reported that integrating medication adherence club for HIV and non-communicable diseases enables in reducing patient waiting times (Venables et al., 2016). This highlights the need to strengthen integrating other comorbid chronic conditions into HIV care to reduce patient visiting multiple places for different services. In addition to this further research on the impact of integrating other comorbid chronic conditions into HIV care should be assessed on a large scale.

There was no difference in satisfaction among the DSD models. This could be due to patients enrolling in models of their choice. In multivariate Tobit regression, high adherence level, suppressed viral load (< 1000 copies/ml) and being on first line regimen significant positively associated with higher patient satisfaction. With respect to adherence status, the quantitative finding of the present study was also supported by the qualitative part of this study. Which most patients reported improved adherence status with the implementation of DSD models. Similarly,

a qualitative study conducted in Nigeria also indicated that improvements in adherence level and viral suppression had increased patient satisfaction. The introduction of the various models has improved treatment adherence and achieved viral suppression which resulted in satisfaction of patients (Semo et al., 2023). Similarly, a study conducted by Baleeta et al in Uganda also illustrated that poor adherence [aPR = 0.33, 95% CI:0.19–0.56] negatively associated with patient satisfaction (Baleeta et al., 2023). Furthermore, studies in Tanzania, Kenya, Uganda, Nigeria and Brazil showed that patient who adhere to ART treatments were more satisfied (Somi et al., 2021, Leon et al., 2019). Therefore, evidences suggested that the implementation of DSD models has enhanced treatment adherence which ultimately enhance treatment outcomes such as achieving the targeted viral load. Thus, policy makers should scale up and ensure the sustainability of the models.

Another factor associated with better treatment satisfaction was suppressed viral load (< 1000 copies/ml). Our finding in line with a study conducted in South Africa where viral load result of ≥1000 copies/mL in women who were not retained in community-based adherence groups (p = 0.002) (Myer et al., 2017). Another systematic review conducted by Long et al in Sub-Saharan Africa also showed that increase in viral suppression with DSD models (Long et al., 2020). Moreover, a study conducted in Zimbabwe illustrated that improved virological suppression in adolescents with HIV by Peer-supported community-based DSD model (Mavhu et al., 2020). However, an African cohort study reported that there was no significant difference in viral suppression between patients who were satisfied with their care and those who weren't (Somi et al., 2021). The reason behind such discrepancies could be attributed to differences in study patient's characteristics. Hence the introduction of the models contributes to positive treatment outcomes, which in turn could help to prevents resistance and OIs, ultimately supporting the achievement of WHO 95-95-95 goal. This implies that the models should be expanded and strengthened to achieve the expected patient treatment outcome in all patients on ART. Moreover, post-implementation evaluation of the models should be expanded to identify factors affecting them and to take appropriate action accordingly.

Additionally, the current study has also found that being on first line regimen associated with higher patient satisfaction. This finding was congruent with a study conducted in Nigeria, which revealed respondents on TDF/3TC/DTG were 2.5 times more likely to report better satisfaction

(medium) than respondents on TDF/3TC/ATV/r (Ajogbor et al., 2022). The reason for similar report could attributed to TDF/3TC/DTG is currently a first line ART regimen which possesses a strong antiviral effect, a high resistance to resistance, and an improved safety profile. Hence, it promotes adherence which thereby improves patient satisfaction (Walmsley et al., 2013, Ajogbor et al., 2022, De Jager et al., 2018). Additionally, the qualitative part of the present study revealed that supply chain inconsistency of some second line and third line regimens as a barrier with implementation of DSD models. As a result, patient on such regimens could be dissatisfied with service provided at the facility. A study conducted by Getachew et al reported that ARV shortage was one the challenges with implementing the DSD models (Getachew et al., 2022). This implies MOH, EPSS and other responsible bodies should collaborate to ensure the national supply demand and achieve the 95-95-95 targets.

8. Strengths and limitations of the study

One of the strengths of this study was it used of a mixed method approach to triangulate data obtained from quantitative data with comprehensive understanding of patient perception on differentiated ART models. This helps to capture the trends and details of the research problem. Representativeness of the study was ensured, one by including patients in both less intensive and more intensive DSD models. And also, we included ten facilities in Addis Ababa which ensure the generalizability of our study. Therefore, the result of this study will help to represent all patients enrolled in any of ART service delivery models. Moreover, this study showed patient and health professional perception on integration of other chronic conditions with HIV care, where limited studies had previously been undertaken in Ethiopia.

Nevertheless, one of the limitations of this study was the use of cross-sectional study design, which cannot indicate causal relationships between associated factors and patient satisfaction with ART service. Second, some of the studies included in the discussion part of this study did not mention DSD models directly. Due to the fact that Ethiopia implemented different DSD models since 2017, studies were included by thinking they assessed DSD models by default.

9. Conclusion

The quantitative finding of this study indicated that higher patient satisfaction with ART service was founded. Being on first line regimen, high patient adherence status, and low viral load amount were significant factors associated with high patient satisfaction with the service. There was no satisfaction difference among the DSD models. Most of the patients believed that implementation of DSD models reduced frequent health facility visits while perception of failing to seek care between appointments was the most reported barrier with ART DSD models. The qualitative findings of this study unveiled better perceived service quality, reduction in stigma fears, decreased time and financial commitments, and better patient outcomes (i.e., improvement in adherence status, satisfaction level, and clinical outcomes) with ART DSD models. On the other hand, perceived stigma with community DSD models, low awareness on DSD models, fear of detachment from the health facility, and supply chain inconsistency were the reported barriers with ART DSD models. Majority of the study participants believed that the integration of HIV care with other chronic condition was beneficial as it is a one stop service. Program implementers should give focus on addressing barriers associated with DSD models.

10. Recommendations

- Since only some facilities implement the DSD models in full scale, it is suggested that policy makers should monitor the sustainability of the models after implementation.
- In addition to ensuring availability and sustainability of all DSD models, it is recommended that the federal ministry of health and EPSS maintain supply chain consistency, so that patients can be enrolled in any of the preferred models.
- Health care providers should put more effort on improving patient awareness on DSD models.
- To address patient concerns during the extended duration between appointments, explore and implement remote monitoring methods, such as mHealth-based interventions using mobile apps and short messaging service techniques.
- Policy makers should consider resolving the barriers associated with the DSD models when scaling up the models.
- Researchers are recommended to conduct further study specifically focused on assessing the integration of HIV care with other chronic conditions.
- Further research should be done within diverse communities and cultures.

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Annexes

Part I: English Version of Information Sheet

Dear Participant,

Good morning/Good Afternoon

Title

Patient and Provider Experiences on Differentiated Antiretroviral Therapy Service Delivery Models in Addis Ababa Health Facilities: A Mixed-Methods Study

Introduction

My name is Kidist Mesele, I am a member of the study that is carried out at ten health facilities in Addis Ababa, Ethiopia. The study will be conducted by Ms. Kidist Mesele Tadesse from Addis Ababa University, School of Pharmacy, Department of Pharmaco-Epidemiology and Social Pharmacy, Post Graduate Program.

Objective

To assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa.

Potential benefits and harms

The finding of the study will generate ample evidence regarding the impact of post-implementation of DSD models, patient preferences; identify benefits with the program. Furthermore, the findings of the study will bolster the efficient ART service delivery healthcare system to improve quality of HIV care and treatment services, treatment outcomes, and enhance the achievement of the 95-95-95 global targets set out by WHO.

No harm will be associated with your decision to participate or not in this study. It will have no effect on the services you receive at the facility, and you can stop the interview or not answer any questions at any time.

Privacy and confidentiality

Your answers to the questions in the survey will be kept completely confidential and your name will not be revealed in any way in the survey; also, your responses will not be linked to your identity in any way. Access to information about your collected data will be restricted to the researcher and the advisor. At the end of the study, only aggregated findings will be reported.

If you have any questions concerning the study, please contact me through

Kidist Mesele, Tel: 0919884907
Email address: meselekidist677@gmail.com
AAU, School of pharmacy ERC: Tel 002511560212
Fax 00251(11)1558566

Part II: English version of informed written consent form

Hello, my name is _____. I am contacting you on behalf of a study team at the School of Pharmacy, Addis Ababa University. I would like to ask you a few questions regarding the antiretroviral therapy service that you are receiving in the facility. The aim of this study is to assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa. The questionnaire will take a maximum of 10-15 minutes of your time and your participation in this study is depend on your willingness. Your decision to participate or not in this study will have no effect on the services you receive at the facility, and you can stop the interview or not answer any questions at any time. Your answers to the questions in the survey will be kept completely confidential and your name will not be revealed in any way in the survey; also, your responses will not be linked to your identity in any way. There are no right or wrong answers to any of the questions in this questionnaire. What required is your response to these questions. There is no direct benefit for your participation in this study. However, the study will improve the quality of ART service.

Investigators

1. Kidist Mesele
2. Girma Tekle Gebremariam
3. Alemu Belayneh
4. Beshir Bedru
5. Dr. Gebremedhin Bedemariam
6. Dr. Eskinder Eshetu
7. Dr. Eyob Beyene

I confirm that I have read and understand the information provided and agree to take part in the study. I understand that my participation is voluntary and I am free to withdraw at any time.

Participant signature _____ **Date** _____

Witness signature (if a participant unable to read or write) _____**Date** _____

Interviewer Signature _____ **Date** _____

Kidist mesele, Tel 0919884907

Email address: meselekidist677@gmail.com

School of pharmacy ERC: Tel 002511560212 **Fax 00251(11)1558566**

Part III: English version of written informed assent form

I have been informed that my parent(s) have given permission for me to participate, if I want to, in a study concerning, to assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa.

My participation in this project is voluntary and I have been told that I may stop my participation in this study at any time. If I choose not to participate, it will have no effect on the service I receive in the facility in any way.

Signature: _____

Date: _____

Part VI: Socio-demographic characteristics of the patients		
1.	Patient card No. _____	Name of health facility: _____ Level of care: _____
2.	Gender	❑Male ❑Female
3.	Age in years	:_____
4.	Marital status	❑Single ❑Married ❑Divorce ❑ Widowed
5.	Education status	❑No formal education ❑Primary (1-8 Grade) ❑ 9-10 Grade ❑11-12 Grade ❑Diploma/TVET/ ❑Bachelor Degree ❑Postgraduate (MSc, PhD) ❑ Other: _____
6.	Employment status	❑Gov't employee ❑NGO employee ❑Private company employee ❑Self-employed (Private business) ❑Student ❑ Housewife ❑ Other: _____
7.	Residence	❑Addis Ababa ❑Outside Addis Ababa
8.	Household monthly income (Average)	: _____ ETB
Part V: Clinical characteristics of the patient		
1	Height (from the medical chart) (the most recent)	:_____
2	Weight (from the medical chart) (the most recent)	:_____
3	BMI (from the medical chart) (the most recent)	:_____
4	How long have you been living with the disease?	:_____ years :_____ months
5	How long have you been on ART?	:_____ years :_____ months
6	Current ART regimen (from the medical	❑TDF + 3TC+ DTG ❑TDF+3TC+EFV

	chart)	❑AZT+3TC+ EFV ❑AZT+3TC+DTG ❑AZT+3TC+ LPV/r ❑AZT+3TC+ATV/r ❑ ABC+ 3TC+LPV/r ❑ABC+3TC+DTG ❑DRV/r+ 3TC+LPV/r ❑ Other, specify: _____
7	How long have you been on the current regimen (in months)? (chart/interview)	: _____
8	Most recent CD4 Count (count/mm3) (from the medical chart)	:_____
9	Most recent HIV Viral Load count (copies/ml) (from the medical chart)	:_____
10	Most recent WHO clinical stages (from the medical chart)	:_____
11	ART adherence status (taken from the chart)	❑Good >95% ❑ Fair (85 - 94%) ❑ Poor <85%
12	Type of differentiated ART delivery model the patient is currently enrolled in (taken from the chart)	**Less intensive models** 1.❑ Appointment Spacing Model (ASM/6MMD) 2.❑ Three Months ARV Dispensing (3MMD) 3.❑ Fast-track drug refills (FTRs) on alternating visits MMS + FTRs 4.❑ Health Extension Professional Managed Community ART refill group (HEP_CAG) 5.❑Peer lead community-based ART distribution/Group (PCAD/G) **More intensive models** 6.❑ Health care worker-managed DSD Model for adolescents living with HIV (DSD for ALHIV) 7.❑ DSD for key population (for FSWs) 8.❑ MCH _DSD 9.❑ DSD for Advanced HIV Disease and PLWH at high-risk Disease Progression
13	Do you have any Comorbidity (i.e., Diabetes mellitus, Hypertension etc.…)	❑Yes ❑No
14	If yes for question 13, Which comorbidity do you have	❑Hypertension ❑Diabetes mellitus ❑Asthma ❑ Dyslipidemia ❑Heart Failure ❑Others, specify: _____
15	Was there an initial regimen switching (from the medical chart)	❑Yes ❑No ❑ Not recorded

16	If yes for question 15, what was the reason for the regimen change? (From the medical chart)	❑Therapeutic failure ❑ Availability issue ❑ADR ❑Other, specify: _____
17	Did you have any OI? (From medical chart)	❑Yes ❑No
18	If yes for question 17, which one did you have	❑ Tuberculosis ❑ Cutaneous fungal infections ❑ Diarrhea ❑ Pneumocystis pneumonia ❑ Others, specify: _____
19	How many times did you visit the health facility in the last one year	: _____
20	How long will you take to travel from home to the health facility (hour)	: _____
21	Have you encountered stock out of your ART at the facility? (In the last one year)	❑Yes ❑No
22	Have you taken cotrimoxazole in the past one year?	❑Yes ❑No
23	If yes for question 22, Have you encountered a stock out of cotrimoxazole at the facility in the past one year?	❑Yes ❑No
24	Have you ever missed an appointment because of a long length of time between schedules?	❑ Yes ❑ No
25	Do you seek care when you get sick between appointments	❑Yes ❑No
26	Have you ever collected your medicines outside of working hours including evening time and weekends?	❑Yes ❑No
27	If yes for question 26, on which time slot did you collect your ART?	❑Night time ❑Weekend ❑Other please specify _____
28	What benefits did you get by being your current ART DSD model (select all that apply)?	❑Reduce travel costs ❑Reduce visit time ❑Reduced workload for health workers ❑Improved adherence ❑Reduce waiting time ❑ Reduction in loss to follow up ❑ Improve the quality of the service ❑Other: _____

29	What barriers/challenges/ have you encountered while you are on the ART DSD model?	❑ ARVs supply chain inconsistencies ❑ Failing to seek care when sick between appointments ❑ Shortage of healthcare providers ❑ Fear of stigma and discrimination ❑ Low awareness on the DSD model ❑Perception that more likely to forget spaced out appointments ❑Lack of leadership and governance ❑ Other: _____
30	What are the factors that influenced your preference for the model you are currently on?	❑ Confidentiality and disclosure ❑ Traveling long distances and associated expenses ❑ Waiting times ❑ Other: _____

Next, we will ask you about your satisfaction with the ART treatment you are receiving. As such, when we ask you about medicines, we are referring to your ART medicines.
For each question, **check** the number that best represents your opinion. There are no right or wrong answers. If you are not sure of any of the answers, check the one you consider most appropriate.

Not at all= 0 A little bit=1 Somewhat= 2 Quite a bit= 3 Very much= 4

Part VI: SATMED-Q Questionnaire		Not at all	A little bit	Some-what	Quite a bit	Very much
This section is about the **side effects** of the medicine.						
1	The side effects of the medicine interfere with my physical activities.	**0**	**1**	**2**	**3**	**4**
2	The side effects of the medicine interfere with my leisure and free time activities.	**0**	**1**	**2**	**3**	**4**
3	The side effects of the medicine interfere with my daily activities.	**0**	**1**	**2**	**3**	**4**
This section is about the **medicine effectiveness**						
4	The medicine I am taking relieves my symptoms.	**0**	**1**	**2**	**3**	**4**

5	I am satisfied with the time it takes for the medicine to start to work.	**0**	**1**	**2**	**3**	**4**
6	I feel better now than I did before starting the treatment.	**0**	**1**	**2**	**3**	**4**
This section is about the **convenience** and ease of use of the medicine						
7	I find that taking my medicine is practical for me.	**0**	**1**	**2**	**3**	**4**
8	I find it easy to use/take the medicine in its present form (taste, size, etc.).	**0**	**1**	**2**	**3**	**4**
9	The timetable for taking the medicine suits me.	**0**	**1**	**2**	**3**	**4**
This section is about the **impact of the medicine** on your everyday life						
10	Thanks to the medicine I am taking, it is easier for me to do my leisure and free time activities.	**0**	**1**	**2**	**3**	**4**
11	Thanks to my medicine, it is easier for me to take care of my personal hygiene.	**0**	**1**	**2**	**3**	**4**
12	Thanks to my medicine, it is easier for me to perform my daily activities.	**0**	**1**	**2**	**3**	**4**
This section is about the **medical follow-up** of your condition						
13	My doctor has informed me in detail about my medical condition.	**0**	**1**	**2**	**3**	**4**
14	My doctor has informed me about the right way to treat my medical condition.	**0**	**1**	**2**	**3**	**4**
This section is about your **general opinion** on the medicine and your health						
15	I intend to continue using this treatment.	**0**	**1**	**2**	**3**	**4**
16	I feel comfortable with my treatment.	**0**	**1**	**2**	**3**	**4**
17	In general, I feel satisfied with the treatment.	**0**	**1**	**2**	**3**	**4**

	Total			

Part VII: Morisky Green Levine Scale (MGLS)			
1	Have you ever forgot to take your ART medication?	A. Yes	B. No
2	Are you careless at times about taking your ART medications?	A. Yes	B. No
3	When you feel better, do you sometimes stop taking your ART medications?	A. Yes	B. No
4	Sometimes if you feel worse when you take your ART medications, do you stoptaking it?	A. Yes	B. No

Part VIII: English Version of Information Sheet (for qualitative study)

Dear Participant,

Good morning/Good Afternoon

Title

Patient and Provider Experiences on Differentiated Antiretroviral Therapy Service Delivery Models in Addis Ababa Health Facilities: A Mixed-Methods Study

Introduction

My name is Kidist Mesele, I am a member of the study that is carried out at ten health facilities in Addis Ababa, Ethiopia. The study will be conducted by Ms. Kidist Mesele Tadesse from Addis Ababa University, School of Pharmacy, Department of Pharmaco-Epidemiology and Social Pharmacy, Post Graduate Program.

Objective

To assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa.

Potential benefits and harms

The finding of the study will generate ample evidence regarding the impact of post-implementation of DSD models, patient preferences; identify benefits with the program. Furthermore, the findings of the study will bolster efficient ART service delivery healthcare system to improve quality of HIV care and treatment services, treatment outcomes, and enhance the achievement of the 95-95-95 global targets set out by WHO.

No harm will be associated with your decision to participate or not in this study. It will have no effect on the services you receive at the facility, and you can stop the interview or not answer any questions at any time.

Privacy and confidentiality

Your answers to the questions in the survey will kept completely confidential and your name will

not be revealed in any way in the survey; also, your responses will not be linked to your identity in any way. Access to information about your collected data will be restricted to the researcher and the advisor. At the end of the study, only aggregated findings will be reported.

If you have any questions concerning the study, please contact me through

Kidist mesele, Tel: 0919884907

Email address: meselekidist677@gmail.com

AAU, School of pharmacy ERC: Tel 002511560212

Fax 00251(11)1558566

Part IX: English informed written consent form (for qualitative)

Hello, my name is _____. I am contacting you on behalf of a study team at the School of Pharmacy, Addis Ababa University. I would like to ask you some questions regarding the antiretroviral therapy service that you are receiving in the facility. The aim of this study is to assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa. The questionnaire will take a maximum of 30 minutes of your time and your participation in this study is voluntary. Direct quotes might be taken from your response to be used in written reports of the paper. Additionally, tape recorder may be used during the interview. Your decision to participate or not in this study will have no effect on the services you receive at the facility, and you can stop the interview or not answer any questions at any time. Your answers to the questions in the survey will be kept completely confidential and your name will not be revealed in any way in the survey; also, your responses will not be linked to your identity in any way. There are no right or wrong answers to any of the questions in this questionnaire. What is required is your response to these questions or statements. There is no direct benefit for your participation in this study. However, the study will improve the quality of ART service.

I confirm that I have read and understand the information provided and agree to take part in the study. I understand that my participation is voluntary and I am free to withdraw at any time.

Participant signature _____ **Date** _____

Witness signature (if a participant unable to read or write) _____**Date** _____

Interviewer Signature _____ **Date** _____

Kidist mesele, Tel 0919884907

Email address: meselekidist677@gmail.com

School of pharmacy ERC: Tel 002511560212

Fax 00251(11)1558566

Part X: English version of written informed assent form (For qualitative study)

I have been informed that my parent(s) have given permission for me to participate, if I want to, in a study concerning, to assess patient and provider experiences with the implementation of ART DSD models in selected health facilities of Addis Ababa.

My participation in this project is voluntary and I have been told that I may stop my participation in this study at any time. If I choose not to participate, it will have no effect on the service I receive in the facility in any way.

Signature: _____

Date: _____

Part XI: Qualitative questions for the patient

Date of interview: _____	Gender: _____
Name of health facility: _____	Age: _____
ART duration: _____	Time started: _____
Duration on DSD (in months): _____	Time ended: _____
Type of DSD model: _____	Patient card number: _____
	Phone number: _____

1. How do you assess the overall ART service in the health facility?

   Probe: which aspects of the services are you satisfied/not satisfied with
2. What benefits did you get from the new ART service model?

   Probe: Benefits related to your financial commitments, the convenience of taking your medicines, your treatment outcomes, your interactions with the health professionals, availability of medicines in adequate quantities, your privacy and confidentiality of your information, etc…
3. Please share with us the barriers /challenges you have faced with the new ART service model.

   Probe: Challenges related to your interactions with the health professionals, availability of medicines in adequate quantities, your privacy and confidentiality of your information, etc…
4. What other services do you think should be included in the model?
   Probe: what is your opinion regarding integration with other medication-related services (i.e. chronic medications like DM, HTN) with the ART delivery model
5. In your opinion, is there anything that we have not discussed so far but you think is important for your care in this health facility?

Thank you very much for your time and consideration!

Part XII: Qualitative questions for health professionals

Date of interview: _____	Age: _____
Name of health facility: _____	Gender: _____
Profession: _____ Highest academic degree completed? _____	Time started: _____
Year of experience: _____	Time ended: _____
Number of active ART patients: _____	Number of health professionals providing HIV care: _____
Working hours of the ART clinic/pharmacy	Days:_____
	Hours:_____

1. Could you describe the ART facility characteristics in your facility?

   Probe: Opening hours, when and how patients collect medications, and perception of workload

   Probe: Availability of ARVs and Cotrimoxazole, lab tests, concerns about medical recordkeeping, adequacy of staff to provide the service

   Probe: What is the success rate with DSD models?
2. What do you think are facilitators to the scaling up of DSD models to other facilities?

Probe: Issues related to the health system, financial resources, supply chain management, health facilities readiness, health workers readiness, relevant guidelines, etc…

3. What challenges do you anticipate will be faced in the scale-up of DSD models to other facilities?

Probe: Challenges related to patient retention, patient awareness/perception, the competence of health workers (getting training about it or not), supply chain, etc

4. What other services do you think should be included in the DSD model?

   Probe: what is your opinion regarding integration with other medication-related services (i.e. chronic medications like DM, HTN) with the ART delivery model
5. Is there anything that you want to add that we have not discussed so far but you think is important?

Thank you very much for your time and consideration!!!

ክፍል 1፡ የአማረኛ መጠይቅ ቅጽ (Amharic version)

አዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፤ ፋርማሲ ት/ቤት፤ ፋርማኮኢፒዲሚዮሎጂና ሶሻል ፋርማሲ ትምህርት ክፍል

ውድ የቃል መጠይቅ ተሳታፊ፤ እንደምን አደሩ/ ዋሉ?

ርዕስ

በአዲስ አበባ በተመረጡ የጤና ተቋማት ልዩ ልዩ የጸረ ኤችአይቪ አገልግሎት አሰጣጥ ሞዴሎች ትግበራ ላይ የተደረገ የታካሚዎች እና የጤና ባለሞያዎች ተሞክሮ ጥናት

መግቢያ

ስሜ ቅድስት መሰለ ይባላል። በአዲስ አበባ፣ ኢትዮጲያ ውስጥ በሚገኙ አስር የጤና ተቋማት በሚካሂድ ጥናት ውስጥ አባል ነኝ። ጥናቱ የሚካሄውም በጥናቱ ተመራማሪ ቅድስት መሰለ እና የጥናቱ ዋና አማካሪ ዶክተር እስክንድር እሸቱ እና ግርማ ተክለ፣ ከአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፤ ፋርማሲ ት/ቤት የድህረ ምረቃ ፕሮግራም ነው።

የጥናቱ አላማ

የዚህ ጥናት ዋና አላማው የ ART DSD ሞዴሎችን አተገባበር ላይ የታካሚዎች እና የጤና ባለሞያዎች ልምድ መገምገም ነው።

ጥቅሞች እና ጉዳቶች

የጥናቱ ግኝት ዲኤስዲ ሞዴሎች ትግበራ ላይ ከዋሉ በኋላ ያለውን ተጽእኖ በተመለከተ ብዙ ማስረጃዎችን ያመነጫል፤ በፕሮግራሙ መሰናክሎችን እና አመቺ ሁነታዎችን ለመለየት ይረዳል። በተጨማሪም የጥናቱ ግኝቶች የኤችአይቪ ህክምና አገልግሎት ጥራትን ያሻሽላል። የህክምና ውጤቶችን ለማሻሻል እና በአለም ጤና ድርጅት የተቀመጡትን 95-95-95 ግቦችን ለማሳካት ይረዳል።

በዚ ጥናት ለመሳተፍ ወይም ላለመሳተፍ በመወሰኖ ምንም አይነት ጉዳት አይኖርም። በተቋሙ ውስጥ በሚቀበሏቸው አገልግሎቶች ላይ ምንም ተጽእኖ አይኖረውም፣ እና ቃለ መጠይቁን ማቆም ወይም በማንኛውም ጊዘ ጥያቂ አለመመለስ ይችላሉ።

ግላዊነት እና ሚስጥራዊነት

በጥናቱ ውስጥ ላሉት ጥያቄዎች የሚሰጡት መልሶች ሙሉ በሙሉ ሚስጥራዊ ይሆናሉ እና ስምዎ በጥናቱ ውስጥ በምንም መልኩ አይገለጽም። እንዲሁም፣ የእርስዎ ምላሾች በምንም መልኩ ከማንነትዎ ጋር አይገናኙም። በዚህ መጠይቅ ውስጥ ለሚነሱት ማናቸውም ጥያቄዎች ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም። የተሰበሰበው መረጃ ለተመራማሪው እና ለአማካሪው ብቻ የተገደበ ይሆናል። በጥናቱ መጨረሻ ላይ የተጠቃለለ ግኝት ብቻ ሪፖርት ይደረጋል።

በትናቱ ላይ ማንኛውም አይነት ጥያቀዎች ካሎት እባኮን ስር በተገለጸው አድራሻ ያግኙኝ፣

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ክፍል 2፡ በቃለ መጠይቅ ለመሳተፍ የፈቃደኝነት ቃል መቀቢያ ቅጽ

ጤና ይስጥልኝ, ስሜ _____ይባላል። እኔ የመጣሁት ከአዲስ አበባ ዩኒቨርስቲ የፋርማሲ ትምህርት ቤትን ወክዬ ነዉ። የጥናቱ ዓላማ በተቋሙ ውስጥ እያገኙ ያሉትን የፀረ-ኤችአይቪ ሕክምና አገልግሎትን ማጥናት ነው። መጠይቁ ቢበዛ ከ10-15 ደቂቃዎች የሚፈጅ ሲሆን, በዚህ ጥናት ውስጥ ያለዎት ተሳትፎ በፈቃደኝነት ነው። በዚህ ጥናት ውስጥ የመሳተፍ ወይም ያለመሳተፍ ውሳኔዎ በተቋሙ ውስጥ በሚያገኙት አገልግሎት ላይ ምንም ተጽእኖ አይኖረውም እና ቃለ-መጠይቁን ማቆም ወይም ማንኛውንም ጥያቄ በማንኛውም ጊዜ መመለስ ይችላሉ። በጥናቱ ውስጥ ላሉት ጥያቄዎች የሚሰጡት መልሶች ሙሉ በሙሉ ሚስጥራዊ ይሆናሉ እና ስምዎ በጥናቱ ውስጥ በምንም መልኩ አይገለጽም። እንዲሁም፣ የእርስዎ ምላሾች በምንም መልኩ ከማንነትዎ ጋር አይገናኙም። በዚህ መጠይቅ ውስጥ ለሚነሱት ማናቸውም ጥያቄዎች ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም። የሚያስፈልገው ለእነዚህ ጥያቄዎች ወይም መግለጫዎች የእርስዎ ምላሽ ነው። በዚህ ጥናት ላይ ለሚያደርጉት ተሳትፎ ምንም አይነት ቀጥተኛ ጥቅም የለም። ሆኖም ጥናቱ የጸረ-ኤች አይ ቪ ህክምና አገልግሎትን ግን ያሻሻሽላል።

ጥናቱ ቡድን አባላት

1. ቅድስት መሰለ
2. ግርማ ተክለገብረማርያም
3. አለሙ በላይነህ
4. በሽር በድሩ
5. ዶ/ር ገብረመድህን በእደማርያም
6. ዶ/ር እስክንድር እሸቱ
7. ዶ/ር እዮብ በየነ

የቀረበውን መረጃ አንብቤ ተረድቻለሁ እናም በጥናቱ ለመሳተፍ ተስማምቻለሁ። የእኔ ተሳትፎ በፈቃደኝነት እንደሆነ እና በማንኛውም ጊዜ ለመውጣት ነፃ እንደሆንኩ ተረድቻለሁ።

የተሳታፊ ፊርማ _____ **ቀን** _____

ፊርማ (ተሳታፊ ማንበብ ወይም መጻፍ ካልቻለ)_____**ቀን** _____

የጠያቂ ፊርማ_____ **ቀን** _____

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ክፍል 3፡ በቃለ መጠይቅ ለመሳተፍ የፈቃደኝነት ቃል መቀቢያ ቅጽ (For adolescents)

በጥናቱ ውስጥ እንድሳተፍ በተሰቦቺ እንደፈቀዱ ተነግሮኛል። ጥናቱ የሚዳስሰው፣ የ ART DSD ሞዴሎችን አተገባበር ላይ የታካሚዎች እና የጤና ባለሞያዎች ልምድ መገምገም ነው።

በዚ ጥናት ውስጥ የነ ተሳትፎ በፍቃደኝነት ነው እና በማንኛውም ሰአት ቃለ-መጠይቁን ማቆም እንደምችል ተነግሮኛል። በዚህ ጥናት ውስጥ የመሳተፍ ወይም ያለመሳተፍ ውሳኔየ በተቋሙ ውስጥ በሚያገኘው አገልግሎት ላይ ምንም ተጽእኖ አይኖረውም።

ፊርማ: _____

ቀን: _____

ክፍል 4: የተሳታፊዎች ማህበራዊ-አጠቃላይ መረጃዎች		
1	የታካሚው ካርድ ቁጥር _____	የጤና ተቋም ስም፡ _____ የጤና ተቋም የእርከን ደረጃ፡_____
2	ጾታ	❑ወንድ ❑ሴት
3	ዕድሜ	: _____
4	የጋብቻ ሁኔታ	❑ያላገባ ❑ ባለትዳር ❑አግብተዉ የፈቱ ❑የትዳር አጋርን በሞት ያጡ
5	የትምህርት ደረጃ	❑መደበኛ ትምህርት ያልተማረ ❑አንደኛ ደረጃ (1-8ኛ ክፍል) ❑ (9-10 ክፍል) ❑11-12 ክፍል ❑ዲፕሎማ ❑የመጀመሪያ ዲግሪ ❑ድህረ ምረቃ (ማስተርስ ወይም ፒኤችዲ) ❑ ሌላ: _____
6	የቅጥር ሁኔታ	❑ የመንግስት ሰራተኛ ❑NGO ሰራተኛ ❑ የግል ድርጅት ተቀጣሪ ❑ የግል ስራ ❑ ተማሪ ❑ የቤት እመቤት ❑ ሌላ: _____
7	የመኖሪያ አድራሻ	❑አዲስ አበባ ❑ከአዲስ አበባ ውጪ
8	አማካኝ የቤተሰብ ወርሃዊ ገቢ	:_____ ብር
ክፍል 5: -የታካሚዎች ከበሽታ ጋር ተያያዥነት ያላቸው መረጃዎች		
1	Height (from the medical chart) (the most recent)	_____
2	Weight (from the medical chart) (the most recent)	_____
3	BMI (from the medical chart) (the most recent)	_____
4	በኤች አይ ቪ ከተያዙ ምን ያህል ጊዜ ሆኖት?	፡_____ አመት ፡_____ ወር
5	የጸረ-ኤች አይ ቪ መድሃኒት መውሰድ ከጀመሩ ምን ያህል ጊዜ	:_____አመት

	ሆኖታል?	፡_____ ወር
6	Current ART regimen (from the medical chart)	❑TDF + 3TC+ DTG ❑TDF+3TC+EFV ❑AZT+3TC+ EFV ❑AZT+3TC+DTG ❑AZT+3TC+ LPV/r ❑AZT+3TC+ATV/r ❑ ABC+ 3TC+LPV/r ❑ABC+3TC+DTG ❑DRV/r+ 3TC+LPV/r ❑ Other, specify: _____
7	አሁን የሚወስዱትን የጸረ-ኤች አይ ቪ መድሃኒት መውሰድ ከጀመሩ ምን ያህል ጊዜ ሆኖታል (በወራት)? (ከካርድ የተወሰደ/ከቃለ መጠይቅ)	_____
8	Most recent CD4 Count (count/mm3) (from the medical chart)	:_____
9	Most recent HIV Viral Load count (copies/ml) (from the medical chart)	:_____
10	Most recent WHO clinical stages (from the medical chart)	:_____
11	ART adherence status (taken from the chart)	❑Good >95% ❑ Fair (85 - 94%) ❑ Poor <85%
12	Type of differentiated ART delivery model the patient currently enrolled in (from the medical chart)	**Less intensive models**
		❑ Appointment Spacing Model (ASM/6MMD) ❑ Three Months ARV Dispensing (3MMD) ❑ Fast-track drug refills (FTRs) on alternating visits MMS + FTRs ❑ Health Extension Professional Managed Community ART refill group (HEP_CAG) ❑Peer lead community ART distribution/Group (PCAD/G)
		More intensive models
		❑ Health care worker managed DSD Model for adolescent living with HIV (DSD for ALHIV) ❑ DSD for key population (for FSWs) ❑ MCH _DSD ❑ DSD for Advanced HIV Disease and PLWH

		at high risk Disease Progression
13	ሌላ ሥር የሰደደ ህመም (እንደ ስኪር፣ ከፍተኛ የሆነ የደም ግፊት ወዘተ...) አለቦት?	❑አዎ ❑አይ
14	ለጥያቄ ቁጥር 13 መልስዎ አዎ ከሆነ፣ምን አይነት ህመም አለቦት?	❑ ከፍተኛ የሆነ የደም ግፊት ❑ የስኪር ❑ አስም ❑ የኮሌስትሮል መብዛት ❑ የልብ ድካም ❑ሌላ: _____
15	መጀመሪያ የሚወሥዱት የጸረ ኤች አይ ቪ መድሀኒት ተቀይሮ ነበር? (Changes other than DTG based regimen)	❑አዎ ❑አይ ❑አልተመዘገበም
16	ለጥያቄ ቁጥር 15 መልሶ አዎ ከሆነ፣ የተለወጠበት ምክንያት ምን ነበር? (ከካርድ የተወሰደ/ከቃለ መጠይቅ) (Changes other than DTG based regimen)	❑ መድሃኒቱ ስላልሰራልኝ ❑ መድሃኒቱ ባለመገኘቱ ❑ የጎንዮሽ ጉዳት ስላስከተለ ❑ሌላም ካለ ይግለጹ:_____
17	ማንኛውም የሰውነት በሽታ የመከላከል አቅም ሲዳከም የሚመጡ ህመሞች (OI) አይነት አለቦት? (ከካርድ የተወሰደ/ከቃለ መጠይቅ)	❑አዎ ❑አይ
18	ለጥያቄ ቁጥር 17 መልሶ አዎ ከሆነ፣ የትኛው? (ከካርድ የተወሰደ/ከቃለ መጠይቅ)	❑ቲቢ ❑የቆዳ ፈንገስ ኢንፌክሽኖች ❑ተቅማጥ ❑ኒሞሲስቲክ ኒሞኒያ ❑ሌላ:_____
19	ባለፈው አንድ አመት ውስጥ ስንት ጊዜ ወደ ጤና ተቋም ሄደዋል /መጥተዋል/	:_____
20	ከቤት ወደ ጤና ተቋም ለመጓዝ ምን ያህል ጊዜ ይወስድቦታል (በሰዓት)	:_____
21	ባለፈው አንድ አመት ውስጥ የጸረ-ኤች አይ ቪ መድሃኒት የለም ተብለው ያውቃሉ?	❑አዎ ❑አይ
22	ባለፈው አንድ አመት ውስጥ ኮትሪሞክሳዞል (ባክትሪም) መድሃኒት ታዘሎት ያውቃል? (ምሳ ሰዓት ላይ ምትወሰደው)	❑አዎ ❑አይ
23	ለጥያቄ ቁጥር 23 መልስዎ አዎ ከሆነ, ኮትሪሞክሳዞል የለም ተብለው ያውቃሉ?	❑አዎ ❑አይ
24	የቀጠሮ ጊዜ ረጅም በመሆኑ ምክኒያት ቀጠሮ ቀርተው ያዉቃሉ?	❑አዎ ❑አይ
25	በቀጠሮ መካከል ሲታመሙ ቀድመው ይመጣሉ?	❑አዎ ❑አይ

26	መድሀኒትዎን ቅዳሜና እሁድ እና በምሽት ሰአትን ጨምሮ ከስራ ሰአት ውጪ ከህክምና ተቋም ወስደዉ ያዉቃሉ?	❑አዎ ❑አይ
27	ለጥያቄ ቁጥር 27 መልስዎ አዎ ከሆነ፣ መቼ?	❑ ምሽት ሰአት ❑ ቅዳሜና እሁድ ❑ ሌላ:_____
28	አሁን ያሉበት የጸረ-ኤች አይ ቪ መድሃኒት አገልግሎት አሰጣጥ አማራጭ ሞዴል ጥቅም ምን ይመስልዎታል?	❑ የጉዞ ወጪ ይቀንሳል ❑ መመላለስ ይቀንሳል ❑ለጤና ባለሙያዎች የሥራ ጫናን ይቀንሳል ❑በታዘዘው መሰረት ሳያዛንፉ መድሃኒት እንዲወስዱ ይረዳል ❑ በወረፋ ምክንያት የሚመጣ መንገላታት /የጥበቃ ጊዜን/ ይቀንሳል ❑ ክትትል እንዳያቋርጡ ይረዳል ❑የአገልግሎቱን ጥራት ያሻሽላል ❑ ሌላ: _____
29	አሁን ያሉበት የጸረ-ኤች አይ ቪ መድሃኒት አገልግሎት አሰጣጥ አማራጭ ሞዴል ሲጠቀሙ ምን መሰናክሎች/ተግዳሮቶች/ አጋጥሞዎታል?	❑ የጸረ-ኤች አይ ቪ መድሃኒት አቅርቦት ችግር ❑ በቀጠሮ መሀል ስታመም ወደ ጤና ተቋሙ አለመምጣት ❑ የጤና ባለሙያዎች እጥረት ❑ መገለልና መድልዎ ፍርሃት ❑ ስለ ሞዴሉ ያለኝ እውቀት ዝቅተኛ መሆን ❑ ረጅም ጊዜ በመሆኑ የቀጠሮ ጊዜ የመርሳት ችግር ❑ የአመራር እና የአስተዳደር ችግር ❑ ሌላ: _____
30	አሁን ባሉበት ሞዴል ምርጫዎት ላይ ተጽዕኖ ያሳደሩበዎት ሁኔታዎች ምንድን ናቸው?	❑ ምስጢራዊነት እና ግልጽነት ❑ረጅም ርቀት መጓዝ እና ተያያዥ ወጪዎች ❑ በወረፋ ምክንያት የሚመጣ የጥበቃ ጊዜ ❑ ሌላ: _____

ክፍል 6፡ SATMED-Q ታካሚዎች ስለ ሚወስዱት መድሐኒት/ህክምና ያላቸውን እርካታ መመዘኛ መጠይቅ

በመቀጠል፣ በሚወስዱት የጸረ ኤች አይ ቪ ህክምና እርካታዎን እንጠይቅዎታለን። በመሆኑም፣ በመጠይቁ ወቅት ስለ መድሃኒቶች ስንጠይቅ፣ የእርስዎን የጸረ ኤች አይ ቪ መድሃኒቶች እያጣቀስን ነው። ለእያንዳንዱ ጥያቄ፣ የእርስዎን አስተያየት በተሻለ የሚገልጸውን ቁጥር ይምረጡ። ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም። ስለ ማንኛቸውም መልሶች እርግጠኛ ካልሆኑ ልክ ነው ብለው ያሰቡትን ይምረጡ።

በጭራሽ = 0, በትንሹ = 1, በመጠኑ = 2, በጣም = 3 , እጅግ በጣም = 4

ክፍል 3- <u>SATMED-Q ታካሚዎች ስለ ሚወስዱት መድሐኒት/ህክምና ያላቸውን እርካታ መመዘኛ መጠይቅ</u>		በጭራሽ	በትንሹ	በመጠኑ	በጣም	እ. በጣም
ይህ ክፍል ስለመድሃኒቱ የጎዮሽ ጉዳት ይመለከታል።						
1	የመድሃኒቱ የጎንዮሽ ጉዳት በአካላዊ እንቅስቃሴ ላይ ተጽእኖ አሳድሯል	**0**	**1**	**2**	**3**	**4**
2	የመድሃኒቱ የጎንዮሽ ጉዳት በ እረፍት እና በትርፍ ጊዜዬ ላይ ተጽእኖ አሳድሯል	**0**	**1**	**2**	**3**	**4**
3	የመድሃኒቱ የጎንዮሽ ጉዳት በጠቅለላው የእለት ተእለት እንቅስቃሴዬ ላይ ተጽእኖ አሳድሯል	**0**	**1**	**2**	**3**	**4**
ይህ ክፍል ስለ መድሐኒቱ ዉጤታማነት ማለትም በሽታዉን ወይም የበሽታዉን ምልክት ስለማከሙ ይገልፃል።						
4	የምወስደዉ መድሐኒት የበሽታዬን ምልክቶች አጥፍቶአቸዋል።	**0**	**1**	**2**	**3**	**4**
5	መድሐኒቱ ከዋጥኩ በኋላ ቶሎ ለውጥ ስለማይበት ረክቻለሁ።	**0**	**1**	**2**	**3**	**4**
6	በፊት ከነበረኝ የጤና ሁኔታ ይልቅ ህክምና ከጀመረኩ በኃላ ጥሩ ስሜት እየተሰማኝ ነዉ።	**0**	**1**	**2**	**3**	**4**
ይህ ክፍል ስለመድሐኒቱ ምቹነት ወይም ለአወሳሰድ ቀላል ስለመሆን አለመሆኑ ይመለከታል።						
7	መድሐኒቶቼ በቀላሉ መወሰድ የሚችሉ እንደሆኑ አዉቂያለሁ።	**0**	**1**	**2**	**3**	**4**
8	መድሐኒቶቼ ባሉበት ሁኔታ (በጣዕማቸዉ፣በመጠናቸዉና በመሳሰሉት) በቀላሉ መዉሰድ እንደምችል አዉቂያለሁ።	**0**	**1**	**2**	**3**	**4**

9	መድሐኒቶቼን የምወስድበት የጊዜ ሰሌዳ ተመችቶኛል።	**0**	**1**	**2**	**3**	**4**
ይህ ክፍል መድሐኒቱ በዕለትከዕለት ኑሮዎት ላይ ስለሚኖረዉ ሚና ይመለከታል።						
10	ዕድሜ ለምወስደዉ መድሐኒት በትርፍ ጊዚዬ የምሰራቸዉን ስራዎች ማከናዎን ቀላል ሆኖልኛል ነዉ።	**0**	**1**	**2**	**3**	**4**
11	ዕድሜ ለመድሐኒቴ የግል ንፅህናዬን ለመጠበቅ ቀላል ሆኖልኛል ነዉ።	**0**	**1**	**2**	**3**	**4**
12	ዕድሜ ለመድሐኒቴ የእለት ከእለት እንቅስቃሴዬን ለማከናወን ቀላል ሆኖልኛል ነዉ።	**0**	**1**	**2**	**3**	**4**
ይህ ክፍል ስለህክምናዉ ክትትል ይመለከታል።						
13	ሐኪሜ ስለጤናዬ ሁኔታ በጥልቀት አሳዉቆኛል።	**0**	**1**	**2**	**3**	**4**
14	ሐኪሜ ያጋጠመኝ የጤና ችግር በተገቢዉ ሁኔታ እንዴት መታከም እንዳለበት አሳዉቆኛል።	**0**	**1**	**2**	**3**	**4**
በመጨረሻም መጠይቁ ስለመድሐኒቱና ስለታካሚዉ ጤንነት አጠቃላይ ያለዉን ሃሳብ ምን እንደ ሚመስል ይመለከታል።						
15	መድሐኒቱን በቀጣይነት ለመዉሰድ አቅጃለሁ	**0**	**1**	**2**	**3**	**4**
16	በሚደረግልኝ ህክምና ምኞት ተሰምቶኛል።	**0**	**1**	**2**	**3**	**4**
17	በአጠቃላይ በሚደረግልኝ ህክምና ረክቻለሁ።	**0**	**1**	**2**	**3**	**4**
	ጠቅላላ ውጤት					

ክፍል 7- መድኃኒትን በታዘዘው መሰረት በአግባቡ ስለመውሰድ		
4.1	የጸረ-ኤች አይ ቪ መድሃኒትዎን መውሰድ ረስተው ያውቃሉ?	1. አዎ 2. አይ
4.2	የጸረ-ኤች አይ ቪ መድሃኒትዎን ለመውሰድ አንዳንድ ጊዜ ግድየለሽ ነዎት?	1. አዎ 2. አይ
4.3	ጥሩ ስሜት ሲሰማዎት አንዳንድ ጊዜ የጸረ-ኤች አይ ቪ መድሃኒትዎን መውሰድ ያቆማሉ?	1. አዎ 2. አይ
4.4	አንዳንድ ጊዜ ህመምዎ ሲብስቦት መድሃኒትዎን መውሰድ ያቆማሉ?	1. አዎ 2. አይ

ክፍል 8፡ የአማረኛ መጠይቅ ቅጽ (For qualitative study)

አዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፤ ፋርማሲ ት/ቤት፤ ፋርማኮኢፒዲሚዮሎጂና ሶሻል ፋርማሲ ትምህርት ክፍል

ውድ የቃል መጠይቅ ተሳታፊ፤ እንደምን አደሩ/ ዋሉ?

ርዕስ

በአዲስ አበባ በተመረጡ የጤና ተቋማት ልዩ ልዩ የጸረ ኤችአይቪ አገልግሎት አሰጣጥ ሞዴሎች ትግበራ ላይ የተደረገ የታካሚዎች እና የጤና ባለሞያዎች ተሞክሮ ጥናት

መግቢያ

ስሜ ቅድስት መሰለ ይባላል። በአዲስ አበባ፣ ኢትዮጲያ ውስጥ በሚገኙ አስር የጤና ተቋማት በሚካሂድ ጥናት ውስጥ አባል ነኝ። ጥናቱ የሚካሄውም በጥናቱ ተመራማሪ ቅድስት መሰለ እና የጥናቱ ዋና አማካሪ ዶክተር እስክንድር እሸቱ እና ግርማ ተክለ፣ ከአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፤ ፋርማሲ ት/ቤት የድህረ ምረቃ ፕሮግራም ነው።

የጥናቱ አላማ

የዚህ ጥናት ዋና አላማው የ ART DSD ሞዴሎችን አተገባበር ላይ የታካሚዎች እና የጤና ባለሞያዎች ልምድ መገምገም ነው።

ጥቅሞች እና ጉዳቶች

የጥናቱ ግኝት ዲኤስዲ ሞዴሎች ትግበራ ላይ ከዋሉ በኋላ ያለውን ተጽእኖ በተመለከተ ብዙ ማስረጃዎችን ያመነጫል፤ በፕሮግራሙ መሰናክሎችን እና አመቺ ሁነታዎችን ለመለየት ይረዳል። በተጨማሪም የጥናቱ ግኝቶች የኤችአይቪ ህክምና አገልግሎት ጥራትን ያሻሽላል። የህክምና ውጤቶችን ለማሻሻል እና በአለም ጤና ድርጅት የተቀመጡትን 95-95-95 ግቦችን ለማሳካት ይረዳል።

በዚ ጥናት ለመሳተፍ ወይም ላለመሳተፍ በመወሰኖ ምንም አይነት ጉዳት አይኖርም። በተቋሙ ውስጥ በሚቀበሏቸው አገልግሎቶች ላይ ምንም ተጽእኖ አይኖረውም፣ እና ቃለ መጠይቁን ማቆም ወይም በማንኛውም ጊዘ ጥያቂ አለመመለስ ይችላሉ።

ግላዊነት እና ሚስጥራዊነት

በጥናቱ ውስጥ ላሉት ጥያቄዎች የሚሰጡት መልሶች ሙሉ በሙሉ ሚስጥራዊ ይሆናሉ እና ስምዎ በጥናቱ ውስጥ በምንም መልኩ አይገለጽም። እንዲሁም፣ የእርስዎ ምላሾች በምንም መልኩ ከማንነትዎ ጋር አይገናኙም። በዚህ መጠይቅ ውስጥ ለሚነሱት ማናቸውም ጥያቄዎች ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም። የተሰበሰበው መረጃ ለተመራማሪው እና ለአማካሪው ብቻ የተገደበ ይሆናል። በበጥናቱ መጨረሻ ላይ የተጠቃለለ ግኝት ብቻ ሪፖርት ይደረጋል።

በትናቱ ላይ ማንኛውም አይነት ጥያቀዎች ካሎት እባኮን ስር በተገለጸው አድራሻ ያግኙኝ፣

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ክፍል 9፡ በቃለ መጠይቅ ለመሳተፍ የፈቃደኝነት ቃል መቀቢያ ቅጽ (For qualitative study)

ስሜ _____ይባላል። እኔ የመጣሁት ከአዲስ አበባ ዩኒቨርስቲ የፋርማሲ ትምህርት ቤትን ወክዬ ነዉ።፡ የጥናቱ ዓላማ በተቋሙ ውስጥ እየተቀበሉ ያሉትን የፀረ ኤችአይቪ ሕክምና አገልግሎትን ማጥናት ነው። መጠይቁ ቢበዛ 30 ደቂቃ የሚወስድ ሲሆን በዚህ ጥናት ውስጥ ያለዎት ተሳትፎ በፈቃደኝነት ነው። ለጥናቱ ጥቅም ላይ እንዲውል ከምላሽዎ ቀጥተኛ ጥቅሶች ሊወሰዱ ይችላሉ። በተጨማሪም በቃለ-መጠይቁ ወቅት ቴፕ መቅጃ እንጠቀማለን። በዚህ ጥናት ውስጥ የመሳተፍ ወይም ያለመሳተፍ ውሳኔዎ በተቋሙ ውስጥ በሚያገኙት አገልግሎት ላይ ምንም ተጽእኖ አይኖረውም, እና ቃለ-መጠይቁን ማቆም ወይም ማንኛውንም ጥያቄ በማንኛውም ጊዜ መመለስ ይችላሉ። በጥናቱ ውስጥ ላሉት ጥያቄዎች የሚሰጡዎት መልሶች ሙሉ በሙሉ ሚስጥራዊ ይሆናሉ እና ስምዎ በጥናቱ ውስጥ በምንም መልኩ አይገለጽም። እንዲሁም፣ የእርስዎ ምላሾች በምንም መልኩ ከማንነትዎ ጋር አይገናኙም። በዚህ መጠይቅ ውስጥ ለሚነሱት ማናቸውም ጥያቄዎች ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም። የሚያስፈልገው ለእነዚህ ጥያቄዎች የእርስዎ ምላሽ ነው። በዚህ ጥናት ላይ ለሚያደርጉት ተሳትፎ ምንም አይነት ቀጥተኛ ጥቅም የለም። ሆኖም ጥናቱ የጸረ-ኤች አይ ቪ ህክምና አገልግሎትን ያሻሽላል።

የቀረበውን መረጃ አንብቤ ተረድቻለሁ እናም በጥናቱ ለመሳተፍ ተስማምቻለሁ። የእኔ ተሳትፎ በፈቃደኝነት እንደሆነ እና በማንኛውም ጊዜ ለመውጣት ነፃ እንደሆንኩ ተረድቻለሁ።

የተሳታፊ ፊርማ _____ **ቀን** _____

ፊርማ (ተሳታፊ ማንበብ ወይም መጻፍ ካልቻለ)_____**ቀን** _____

የጠያቂ ፊርማ_____ **ቀን** _____

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ክፍል 10፡ በቃለ መጠይቅ ለመሳተፍ የፈቃደኝነት ቃል መቀቢያ ቅጽ (For adolescents)

በጥናቱ ውስጥ እንድሳተፍ በተሰቦቺ እንደፈቀዱ ተነግሮኛል። ጥናቱ የሚዳስሰው፣ የ ART DSD ሞዴሎችን አተገባበር ላይ የታካሚዎች እና የጤና ባለሞያዎች ልምድ መገምገም ነው።

በዚ ጥናት ውስጥ የነ ተሳትፎ በፍቃደኝነት ነው እና በማንኛውም ሰአት ቃለ-መጠይቁን ማቆም እንደምችል ተነግሮኛል። በዚህ ጥናት ውስጥ የመሳተፍ ወይም ያለመሳተፍ ውሳኔየ በተቋሙ ውስጥ በሚያገኘው አገልግሎት ላይ ምንም ተጽእኖ አይኖረውም።

ፊርማ: _____

ቀን: _____

ክፍል 11 *የቃለ መጠይቅ መመሪያ* **(ለታካሚ)**

ቃለ-መጠይቅ የተደረገበት ቀን: _____	ጾታ:_____
የጤና ተቋም ስም: _____	ዕድሜ:_____
የኤችአይቪ ህክምና ላይ የቆዩበት ጊዜ : _____	ቃለ-መጠይቁ የተጀመረበት ሰዓት: _____
ዲኤስዲ ሞዴል ላይ የቆዩበት ጊዜ (በወራት): _____	ቃለ-መጠይቁ ያለቀበት ሰዓት: _____
የዲኤስዲ ሞዴል ዓይነት: _____	የታካሚው ካርድ ቁጥር፡_____

1. በጤና-ተቋሙ ውስጥ ያለውን አጠቃላይ **የጸረ-ኤች አይ ቪ ህክምና** አሰጣጥ አገልግሎት እንዴት ያዩታል?

ማብራሪያ ጥያቄዎች: ስለ አዲሱ ሞዴል ያሎትን አስተያየት ቢነግሩኝ

ማብራሪያ ጥያቄዎች: በአገልግሎት አሰጣጡ የተደሰቱበት እና ያልተደሰቱበትን ሁኔታ ቢያብራሩልኝ

2. ከአዲሱ **የጸረ-ኤች አይ ቪ** አገልግሎት አሰጣጥ አማራጭ ሞዴል ያገኙትን አመቺ ሁነታዎች ያብራሩልኝ።

ማብራሪያ ጥያቄዎች: ለመጓጓዣ እና ለሌሎች ከሚያወጡት ወጪ አንጻር፣ መድሃኒቶዎን እንደታዘዘው በአግባቡ ከመውሰድ አንጻር ፣ ስለህክምና ውጤትዎ፣ ከጤና ባለሙያዎች ጋር ስላሎት ግንኙነት፣ የመድሀኒት በበቂ መጠን መኖር/አለመኖር፣ እንዲሁም ስለእርስዎ መረጃ ግላዊነት እና ሚስጥራዊነት በተመለከተ ቢያብራሩልኝ

3. እባክዎ አዲሱን **የጸረ-ኤች አይ ቪ** መድሃኒት አገልግሎት አሰጣጥ አማራጭ ሞዴል ሲጠቀሙ ያጋጠሙዎትን መሰናክሎች/ተግዳሮቶች ያካፍሉን።

ማብራሪያ ጥያቄዎች: ከጤና ባለሙያዎች ጋር ባለዎት ግንኙነት፣የመድሀኒት በበቂ መጠን መኖር/አለመኖር፣የእርስዎ ግላዊነት እና ሚስጥራዊ መረጃ፣ወዘተ ጋር የተያያዙ ችግሮች...

4. በአገልግሎት አሰጣጥ አማራጭ መንገዶች ውስጥ ምን አይነት ሌሎች አገልግሎቶች መካተት አለባቸው ብለው ያስባሉ?

ማብራሪያ ጥያቄዎች: ሌላ በሽታዎች አገልግሎት ጋር (ማለትም፣ እንደ ስኳር፣ ከፍተኛ የሆነ የደም ግፊት ያሉ ሥር የሰደዱ መድኃኒቶች) ስለማጣመር ያሎት አስተያየት

5. በእርስዎ አስተያየት እስካሁን ያልተነጋገርነው ነገርግን መጨመር የሚፈልጉት ነገር አለ?

ለጊዜዎ እና ለአስተያየትዎ በጣም እናመሰግናለን።

ክፍል 12 *የቃለ መጠይቅ መመሪያ* **(ለጤና ባለሞያ)**

ቀን: _____	ጾታ: _____
የጤና ተቋም ስም:_____	ዕድሜ: _____
ሞያ: _____ ያጠናቀቁት የትምህርት ደረጃ_____	ቃለ መጠይቁ የተጀመረበት ሰዓት: _____
የስራ ልምድ: _____	ቃለ መጠይቁ ያለቀበት ሰዓት: _____
አሁን በመታከም ላይ ያሉ የ ART ታካሚዎች ብዛት: _____	የጸረ ኤችአይቪ ህክምና ሚሰጡ የጤና ባለሙያዎች ብዛት: _____
የ ART ክሊኒክ/ፋርማሲ የስራ ሰዓት	በቀን:_____
	በሰአት:_____

1. በጤና-ተቋሙ ውስጥ ያለውን አጠቃላይ የ ART አገልግሎት ሁኔታ ቢያብራሩልኝ?

ማብራሪያ ጥያቄዎች: ከስራ ሰዓት እና የስራ ጫና አንጻር እንዲሁም ታካሚዎች መቼ እና እንዴት መድሃኒቶችን እንደሚወስዱ ቢነግሩኝ

ማብራሪያ ጥያቄዎች: የ ARVs እና Cotrimoxazole መኖር/አለመኖር፣ የላብራቶሪ ምርመራዎች መኖር/አለመኖር፣ ስለ ሕክምና መዝገብ አያያዝ፣ አገልግሎቱን ለመስጠት የሚችሉ ባለሞያዎች አንጻር እንዲሁም ስለሞዴሎቹ የስኬት መጠን ቢነግሩኝ

2. የዲኤስዲ ሞዴሎችን ወደ ሌሎች ፋሲሊቲዎች ለማሳደግ ምን አመቺ ሁኔታዎች አሉ ብለው ያስባሉ?

ማብራሪያ ጥያቄዎች: ጤና ስርዓቱ ጋር የተያያዙ ጉዳዮች፣ የፋይናንስ ምንጮች፣ ስለአቅርቦት አስተዳደር፣ የጤና ተቋማት ዝግጁነት፣ የጤና ባለሙያዎች ዝግጁነት፣ አስፈላጊ መመሪያ ዶክመንቶች ቢነግሩኝ

3. የዲኤስዲ ሞዴሎችን ወደ ሌሎች ፋሲሊቲዎች ለማሳደግ ምን እንቅፋቶች አሉ ብለው ያስባሉ?

ማብራሪያ ጥያቄዎች: የታካሚዎች ክትትል ጋር የተያያዙ ችግሮች፣ የታካሚዎች ግንዛቤ፣ የጤና ባለሞያዎች ብቃት (ስልጠና ስለማግኘት ወይም አለማግኘት)፣ ከአቅርቦት ጋር የተያያዘ...

4. በሞዴሉ ውስጥ ምን አይነት ሌሎች አገልግሎቶች መካተት አለባቸው ብለው ያስባሉ?

ማብራሪያ ጥያቄዎች: ሌላ በሽታዎች አገልግሎት ጋር (ማለትም፣ እንደ ስኳር፣ ከፍተኛ የሆነ የደም ግፊት ያሉ ሥር የሰደዱ በሽታዎች) ስለማጣመር ያሎት አስተያየት

5. በእርስዎ አስተያየት እስካሁን ያልተነጋገርነው ነገርግን መጨመር የሚፈልጉት ነገር አለ?

ለጊዜዎ እና ለአስተያየትዎ በጣም እናመሰግናለን።