Barriers and facilitators to the utilization of community drug distribution points among adolescents aged 10 to 19 years living with HIV in Lira District, Northern Uganda: A qualitative study

Betty Apio (✉ kabeti2012@gmail.com )
Lira University

Research Article

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Abstract

Background: Differentiated service delivery model such as Community Drug Distribution Points (CDDPs) was adopted by Uganda as one of the strategies to decongest the HIV clinics as well as decentralizing HIV care services closer to the stable clients with undetectable viral load. Despite the creation of CDDPs in the catchment areas of accredited anti-retroviral therapy clinics, its utilization remains low at 25%. However, there is little information on the barriers and facilitators to the utilization of CDDPs among adolescents aged 10 to 19 years living with HIV in Uganda. The aim of this study was to explore the barriers and facilitators to utilization of CDDPs among Adolescent Living With HIV (ALWHIV) aged 10-19 years in Lira District, Northern Uganda.

Methods: We conducted an exploratory descriptive study. A total of 29 qualitative interviews were conducted. Participants were purposively selected. Categories of participants included adolescents aged 10 to 19 years living with HIV, caregivers of minors, and lay health care workers at the selected CDDPs. Data was collected using in-depth interviews, focus group discussions and key informant interviews. Data was audio recorded, transcribed and coded manually in which the codes were agreed upon by the authors of the study. The coded data was summarized into major themes on a matrix using master sheet analysis technique. Thematic content analysis was done, the findings were narrated verbatim and presented as text quotes.

Results: Our data shows a number of barriers to utilization of CDDPs among ALWHIV in rural settings. Barriers were categorized as individual level (limited level of privacy, fears and worries, long waiting hours and distance), family related (insults and heavy work load) and health system related (lack of transport). Major facilitators to utilization of CDDPs included ease of access to ART care services, shorter waiting time, desires to remain healthy and productive, and peer support and group encouragement.

Conclusion and recommendations: Our study adds important public health evidence that CDDPs, as one of the community-based models, seems to be serving underprivileged population with low level of education. We recommend provision of appropriate infrastructures used as CDDPs to protect clients’ privacy and confidentiality. ALWHIV need to be served as individuals on arrival as members of the groups at the CDDPs. There is need to strengthen community engagement and sensitization to eliminate HIV related stigma experienced by ALWHIV.

Introduction

HIV is a chronic disease associated with high mortality and morbidity rates in low-income countries (WHO, 2020). Adolescents and young people represent a growing share of people living with HIV worldwide. Globally, approximately 1.75 million are adolescents between the ages of 10 and 19 years live with HIV. Out of 1.75 million, 150000 are new infections acquired in the year 2020 (UNICEF, 2021). Adolescents Living with HIV (ALWHIV) account for about 5 per cent of all people with HIV and about 11% of new adult HIV infections. Sub-Saharan Africa remains the worst-affected region in the world (UNAIDS,
In Uganda, HIV prevalence is 5.7% with approximately 170,000 ALWHIV (UNAIDS, 2021). The number of infected adolescents is expected to increase as more youth remain highly vulnerable to the HIV infection and as access to Antiretroviral Therapy (ART) increases (Kimera et al., 2020).

World Health Organization guidelines recommend that newly diagnosed HIV clients should be initiated early on ART regardless of viral load count and CD4 cell count from the designated health facility. For clients who are newly initiated in care, ART services are provided monthly on scheduled appointments with viral load monitored biannually to check for response to ART. Response to ART means that the client should have suppressed viral load to less than 1000 copies per ml or to undetectable level and be clinically stable (MOH, 2016, 2020). According to MOH, stable adolescents are those age 10–19 years on 1st or 2nd ART regimen for more than 6 months with undetectable viral load who has demonstrated good adherence of over 95% in the last 6 consecutive months (MOH, 2020).

An estimated 95% of HIV service delivery is currently facility based and over 60% of patients in Uganda are considered stable on treatment (MOH, 2016). This indicates high number of HIV stable clients accessing antiretroviral therapy from the health facilities resulting into over congestion, long waiting hours and heavy workload in the accredited ART clinics. Because the patient related challenges of accessing the few ART clinics, Uganda adopted differentiated care and treatment models which included community drug distribution points (Decroo et al., 2013; MOH, 2016). In Community Drug Distribution Points (CDDPs), the health care workers provide ART refill from designated remote areas with poor access to accredited ART clinics in which stable clients pick their 3 monthly drug refills (MOH, 2016). CDDPs increase access to HIV care, provide peer support which is important in improving retention, adherence to ART and health outcomes (Bemelmans et al., 2014; MOH, 2016, 2020). In addition, CDDPs reduce the cost of transport, time of travel and time for drug refills (MOH, 2016, 2017, 2020). Furthermore, CDDPs reduce the workload at the ART clinics so that the health care workers can refocus their efforts on the sick patients with clinical needs referred to the ART clinics from the community drug distribution points (Bemelmans et al., 2014).

Evidence from Uganda demonstrates that utilization of CDDPs remains low at 25% (Mukherjee, Barry, Weatherford, Desai, & Farmer, 2016; Zakumumpa, Tumwine, Milliam, & Spicer, 2021). Factors hindering utilization of CDDPs include self-induced stigma, fears of breach confidentiality as a result of unintended disclosure of HIV status to peers (Kintu et al., 2021). However, there is limited information about the barriers and facilitators to utilization of CDDPs by the ALWHIV. Understanding the barriers and facilitators to utilization of CDDPs has important implications for interventions to enhance care and treatment outcomes. Therefore, this study seeks to explore the barriers and facilitators to utilization of CDDPs among ALWHIV in LIRA District, Northern Uganda.

**Methods**

**Study design and setting**
We conducted an exploratory descriptive study in selected CDDPs of Amach HC IV and Ogur HC IV catchment areas in Lira District. Lira district has an estimated population projection of about 478,500 and is about 380km from Kampala, the capital city of Uganda. Explorative descriptive design was aimed at understanding ALWHIV perspectives on the barriers and facilitators experienced while seeking ART care services from the CDDPs. In-depth interviews (IDI), key informant interviews (KII) and focus group discussions (FGD) were used for in-depth investigations of barriers and facilitators that ALWHIV experienced while utilizing CDDPs.

**Analytical framework**

The study was guided by an analytical framework of access to health care proposed by Levesque and colleagues (Levesque, Harris, & Russell, 2013). The framework incorporates both the demand side (individual factors and caregivers’ factors) and the supply side (health care related factors) in understanding barriers and facilitators to utilization of CDDPs by the ALWHIV. Levesque and colleagues framework guided this study in two ways. We sought the experiences of a range of study participants which included ALWHIV, caregivers of minors, and the health care providers who regularly delivery ART care services at the CDDPs. Secondly, Levesque et al. (2013) framework guided data analysis in which deductive thematic analysis was used and themes were presented as quotes in the results sections.

**Study population**

The study was conducted among stable ALWHIV aged 10 to 19 years, caregivers of minors accessing ART care services from the selected CDDPs, and trained health care providers attached to the selected outreach points. Written informed consent and assent were obtained from both adult and minors who were willing to voluntarily participate in the study prior to the interview.

**Sample size**

A total of 12 focus group discussions, 12 in-depth interviews and 5 key informant interviews were conducted. These interviews were conducted until saturation point was achieved.

**Study site and sampling criteria**

Purposive sampling was used for selection of study participants from two (2) health center IVs in Lira district. A total of seven (7) CDDPs were purposively selected in which three (3) were in the catchment areas of Ogur HC IV and while four (4) in Amach HC IV. These two HC IVs had relatively high burden of ALWHIV and were purposively selected to represent the experiences of ALWHIV utilizing ART care services at the CDDPs from the rural settings. Stable ALWHIV aged 10 -19 years enrolled in the selected CDDPs on ART for more than 6 months were purposively selected and interviewed in the focus group discussion and in the in-depth interviews. Caregivers of minors aged 10 -12 years of age, who were not able to express themselves, were also purposively selected and participated in the focus group discussion and in-depth interviews. Focus group discussion was aimed at understanding the experiences of different age groups.
of ALWHIV and caregivers of minors as groups. In-depth interviews were meant to gain deeper individualized barriers and facilitators to utilization of CDDPs.

Trained health care workers providing health care services at the selected CDDPs were purposively selected and interviewed as key informants because of the wealth of their experience in implementing community-based models such as CDDPs.

Data collection

We constructed topic guides around the themes derived from the analytical framework. Interview guides were pre-tested at Ober HC IV in Lira City and the information obtained was used to modify the items in the data collection tools. Data was collected on individual level barriers (privacy at the CDDPs, fears, access to CDDPs and waiting time), family related barriers (work load, abuses, transport) and health system related barriers (consistency of drug refills, means of transport to the CDDPs). Trained research assistants collected data from the study participants after obtaining voluntary written informed consent and assent. Data was collected between February to March 2022 supervised by BA. On average, the interviews lasted for about 45 minutes to 60 minutes. Overall, a total of 29 qualitative interviews were conducted.

Data capture and analysis

We followed the processes required for ensuring rigor in qualitative interviews and data analysis proposed by (Sheikh et al., 2011). All the qualitative interviews were audio recorded and each of them were transcribed verbatim. Qualitative data analysis approach followed iterative approach of transcribing recorded information and reading multiple times for familiarization. This was followed by generating codes manually from the transcribed data by each of the authors (CM, TM, RN, JA, MS, EDS, EW, CO, BA) and then obtained intercoder reliability. The coded data was summarized into major themes on a matrix table based on items selected from the (Levesque et al., 2013) analytical framework. All the authors were involved in the overall synthesis of the study findings arrived at through the consensus process in which all the disagreements were dissolved.

The items selected included individual level barriers, family related barriers and health system barriers. The facilitators included ease of access, shorter waiting time, walkable distance to CDDPs, peer support and group encouragement. From the major themes, thematic content analysis was done and the findings were narrated verbatim and presented as text quotes.

Results

The findings emerging from this study are divided into socio-demographic characteristics, ART care services provided at the CDDPs, barriers and facilitators to utilization of community drug distribution points. The findings from this study were presented according to the themes derived from Levesque et al.
The major themes included individual level, family related and health system barriers to utilization of the CDDPs among the ALWHIV.

**Social demographic characteristics of study participants**

Overall, 29 qualitative interviews were conducted with a total of 12 FGD, 12 IDI and 5 key informants. ALWHIV and caregivers of minors were of average age of 13 and 44 years respectively. 96% of the participants attained primary level of education (Table 1).

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**Health care services provided at the CDDPs**

ALWHIV and caregivers of minors seeking ART care services from CDDPs interviewed were asked about the health care services provided during scheduled visits. Our findings revealed that the core HIV care services were provided by the lay health care workers with basic training in HIV care and treatment. The core HIV care services offered included health assessment, provision of ART refills during scheduled appointment visits, and regular psychosocial support and home visits on a monthly basis as well as viral load monitoring.

“Health care services provided at the CDDPs included teaching ALWHIV on importance of compliance with taking ART every day at the right time, assessment of clinical status and nutrition status, and provision of drug refills every 2 months or 3 months depending on the result of the viral load. If the result is good, then you are given drug refill for three months”. Female, participant 5, IDI

**BARRIERS AND FACILITATORS TO UTILIZATION TO CDDPS**

From qualitative interviews, we generated two (2) broad themes, barriers and facilitators to utilization of CDDPs. From the broad themes, the research team generated three (3) sub themes to barriers to utilization of CDDPs namely individual level related barriers, family related barriers and health system barriers. Facilitators to utilization of CDDPs included ease of access to ART services, desire to remain healthy and productive, reduced time spent accessing care, and peer support and group encouragement.

**Barriers to utilization of CDDPs**

**Individual level related barriers**
Interviews with ALWHIV and caregivers of minors revealed that a number of barriers affecting utilization of CDDPs. These barriers included limited level of privacy, individual fears and worriers, distance to CDDPs and longer waiting time.

**Limited level of privacy at the CDDP**

During health service delivery at the CDDP, ALWHIV were asked about the physical comfort of the venues designated as “suitable infrastructure” used as CDDPs. Across all the interviews, our study revealed that the agreed venues included some of the churches, primary schools, shades of trees in the community and homes of residences. Most of these outreach points has limited level of privacy and were open to the neighborhood and passersby. The limited level of privacy at the CDDPs was reported as one of the main barriers to utilization of CDDPs. As one of the ALWHIV said:

“We gather under this mango tree for collecting drug refills, those with problems are counselled here because there is no any other place with privacy. Being an open place, some of ALWHIV do not openly talk about their problems, instead they keep quit and go back to their homes without telling the health care providers at the CDDPs”. Female, participant 6, IDI.

To the ALWHIV, limited level of privacy meant that people in the nearby community knowing your HIV status, being labelled as those suffering from HIV translating into individualized stigma which negatively affect disclosure of health problems, adherence to medication and retention at the CDDPs.

“At the CDDPs, many ALWHIV gather and are attended to under the shade of a tree in the residence of the community member. Every community member in this area knows our HIV status which is not good. Those with health or home related problems are attended to in the open with almost no privacy. This makes some of us not to tell our problems to the health care providers”. Female, participant 2, IDI.

Our in-depth interviews with participant attached to one of the CDDPs revealed that if any ALWHIV has health problems during the scheduled appointments, then he or she has to wait until the end of the session to be counselled. One participant said:

“Those with problems have to wait until up to the end of provision of drug refills so that they can be attended to privately because of lack of space”. Female, participant 3, IDI.

**Individual fears and worriers**

Interviews with ALWHIV, caregivers of minors and health care providers at the CDDPs found that individual fears and worries arise partly from the group nature of ART delivery services provided during the CDDPs. Our study revealed that this group kind of health care services unintentionally discloses HIV sero-status of ALWHIV to their peers without their voluntary consent causing fears and worries, HIV related stigma and discrimination among peers on ART. Loss of friendship, finger pointing and back biting by the community were also reported across all the interviews.
“Some of the ALWHIV experiences individualized shame because of being in a group given the same date of appointment for collecting drug refills at the CDDPs which cause fears that peers, other people collecting drug refills and the nearby community would know that they have HIV and taking treatment”. Male, participant 1, KII.

**Distance to CDDP**

CDDP as one of the community-based models is expected to be within a walkable distance with almost no cost incurred. When the participants were asked the how long they take to walk to the nearest CDDP closer to their homes, their responses varied from 10 minutes to maximum of 3 hours. The majority of ALWHIV walked between 30 to 45 minutes from their homes to the nearest service points to access medication. Our study revealed that some few ALWHIV from the periphery of CDDPs still walk longer distances than required and sometimes fail to collect their drug refills on scheduled appointment visits. As one participant said:

“My home is at the extreme end of the parish where I collect the drugs from. There is no bicycle at home to ease my movement to the CDDP. I have to walk for more than 2 hours to the CDDP”. Male, participant 2, FGD 3.

**Long waiting time**

Long waiting hours was a common theme across interviews with ALWHIV and health care providers. It emerged that both the ALWHIV and health care providers contribute to longer waiting time at the CDDPs. Interview with both health care providers and ALWHIV revealed that time wasters included late coming by both ALWHIV and health care providers at CDDPs. Our study revealed that health care providers lacked reliable means of transport to reach the CDDPs which negatively health care services. Those who come early had to wait for the late comers until a reasonable number is realized for the health care providers to start offering ART services at the CDDP.

“As one of the health care providers reported that ALWHIV are told to come by 9:00am in the morning. Some of them observe the time of appointment while others do not. Those who come late cause their peers to wait longer than required which discourages others from coming early in the subsequent scheduled appointments”. Male, participant 1, KII.

Our interviews also revealed that, apart from some of the ALWHIV coming late, at times health care providers bring drugs late to the CDDPs because of lack of transport purposely allocated to regularly deliver the pre-packed treatment on the scheduled visits.

“Sometimes the health care providers lack reliable means of transport and reach late at CDDPs when some of ALWHIV have already waited for so many hours. Even when they reach late, they delay to start the activities at the CDDPs as they wait for a good number ALWHIV to be together”. Male, participant 3, KII.
Family related barriers

Our interviews with the caregivers and ALWHIV revealed that ALWHIV who were total orphans staying with their step fathers, aunties, uncles, grandparents and those from divorced parents experience daily heavy load and insults. Some of the family members tell the ALWHIV to leave their homes and look for where to stay which make them think that they are not worth living. One of the participants said:

“My step father who remarried my mother who is on ART abuses me every day saying that “I should leave his home and look for where my late father was buried and stay there because his land is only adequate for his biological children.” All these insults make to think that am not worth living, no need to continue collecting and taking drugs every day”. Female, participant 6, FGD4.

Because of insults and heavy work load levied on ALWHIV, some of them do no collect their drug refills on the scheduled appointment dates interrupting adherence to medication.

“For instance, my aunty told me to fetch water, cook food and wash clothes before going to the CDDP to pick my drugs. I was tired by the time I completed work, it was late and could not move to collect the drugs. I was not able to keep the scheduled appointment”. Female, participant 7, FGD5.

Other family related barriers affecting ALWHIV from utilization of CDDPs reported included forgetfulness of the date of collection of drug refills, lack of money to buy soap for ALWHIV to wash dirty clothes prior to scheduled visits and having ALWHIV from divorced parents not settled in one place.

Health system related barriers

Our interviews with health care providers attached to the CDDPs revealed that the main barriers affecting health care service provision on scheduled visits is lack of reliable means of transport allocated to HCP to delivery pre-packed drug refills to the CDDPs. If drugs are delivered late, services start late and ALWHIV leave late.

“I do not have a bicycle meant for this work. I use my own transport to ferry the drugs from the health facility up to the CDDPs which is more than doing voluntary work”. Female, participant 4 KII.

Other health facility related challenge is mismatch in the dates recorded in the health facility files and personal record books which may result into missed appointments.

“Some of the ALWHIV and or their caregivers do not turn up for drug refill because of differences in the date written in their books which may not match with that in the health facility files”. Female, participant 1, IDI.

Health care providers’ competency

Findings from this study revealed that health care providers attached to the CDDPs had basic training in HIV care and treatment which is not adequate to manage other health conditions at the CDDPs. As one of
the health care providers said:

“There are no qualified health care providers who periodically offers medical checkup to the ALWHIV transferred to the CDDPs. As a lay health care provider, my level of education and training is low to address all the health care needs of the ALWHIV”. Female, participant 5, KII.

FACILITATORS TO UTILIZATION OF CDDPS

Themes that emerged from the facilitators of CDDPs included ease of access to care, shorter waiting time, need to remain healthy and productive, and peers support and group encouragement.

Ease of access to ART services

Most ALWHIV interviewed stated that CDDPs were nears to their residences, within walkable distances and experienced no transport challenges in accessing ART refills. For those coming from far places beyond 10 km from the CDDPs, ART refills were being delivered to their homes by the health care providers. As one participant said:

“CDDP is near to our home. There are few people who collect their drug refills from here. We take a short time of about one hour at the CDDP from the beginning up to the end of picking drug refills”. Male, participant 9, IDI.

Desire to remain healthy and productive

Across all the interviews, the desires to remain healthy like other clients on ART motivated ALWHIV to continue collecting drug refills and taking them promptly as required.

“I come to the CDDP to look for my life”. These drugs keep my life. I do not miss collecting my drugs from the CDDP on the date of appointment because my life depends on these drugs”. Male, participant 3, FGD 3.

Reduced time spent accessing care

Regarding the waiting time spent while collecting drug refills, ALWHIV stated that they spent few hours at the CDDP when seeking for ART care services.

“Health care services at the CDDP take a short time from 8:00am to 10:00am and ALWHIV are served quickly and return back home fast”. Male, participant 2, KII.

Peer support and group encouragement

Community based models such as CDDPs have been reported to be the source of group encouragement and support which enabled ALWHIV to share experiences and navigate through the common challenges which they encounter in their life. ALWHIV interviewed reported that they had separate scheduled appointment dates different from those of adults which enabled them to share experience, gain
confidence and continue to support each other to collect drug refills and utilize ART care from the CDDPs. In addition, health care providers offered ALWHIV continued group encouragement and support through monthly home visits, health education sessions, counselling, provision of psychosocial support and consistent ART services at the CDDPs.

"Most ALWHIV don't fear to come and pick the drugs because they know that they are not alone on treatment. There are many other on the same drugs. They get encouraged". Female, participant 2, IDI.

Discussion

This study investigated barriers and facilitators to utilization of CDDPs among ALWHIV aged 10 to 19 years in Lira district, a rural setting in northern Uganda. Barriers were considered as factors that hinder or prevent ALWHIV from collecting drug refills from the CDDPs which negatively affect health outcomes. Based on the interviews with the ALWHIV, caregivers of minors and health care providers, barriers identified included individual level barriers, family related barriers and health system related barriers.

Facilitators were considered as benefits which ALWHIV experience which promote continuous collection of drug refills from the community drug distribution points. Across all the interviews, our study revealed that facilitators to CDDPs included ease of access to the distribution points, desire to remain healthy and productive, shorter waiting time, and peers support and group encouragement.

In 2017, Uganda issued implementation guidelines for DSD model in which CDDP was defined as the community-based site where ART care is delivered by the lower health care providers. In this community-based model, ART care services are delivered to a group of stable clients coming from a common location which is distant from the health facility. The CDDP model can accommodate groups ranging from 10 to 50 stable clients. This model is flexible, allowing caregivers or trusted persons coming from the same direction as the clients and or ALWHIV to pick drug refills for those who have not managed to come for the scheduled appointments.

We found out that the CDDP model provided ART services beyond the model approach in that it provided opportunity for caregivers and other ALWHIV to pick drug refills for those who missed scheduled appointments. In addition, it provided for the health workers to deliver ART refills to the homes of ALWHIV who missed scheduled visits. Home delivery is to ensure that ALWHIV have adequate stock of medication and continuity in taking treatment without interruption. Furthermore, it provided for the health care providers to conduct monthly home visits providing psychosocial and adherence support and to detect and address potential health problem faced by both the ALWHIV and their caregivers. Similar findings are reported in elsewhere in Uganda (TASO., 2015.) and in South Africa, Malawi and Zambia (Huber et al., 2021).

At the CDDPs, we noted that peers provided a form of group support and encouragement which made each of the ALWHIV to continue to live positively which is paramount in achieving 95-95-95 goals of
UNAIDS with a focus of having 95% of ALWHIV achieving viral load suppression (Heath, Levi, & Hill, 2021).

Our study found that facilitators which promoted ALWHIV to continue collecting drug refills included shorter distance to the CDDPs which most of them were within walkable distances. ALWHIV stated that they spent shorter hours at the CDDP and return home quickly compared to the duration spent at the health facility (MOH., 2017). This finding is congruent with studies conducted elsewhere in which clients reported quick services being provided during drug refills collection, shorter waiting times and improved access to ART care services (Dudhia & Kagee, 2015; Mukumbang, Ndlovu, & van Wyk, 2022; Mukumbang, Orth, & Van Wyk, 2019; Tukei et al., 2020). These facilitators fulfill the objectives of community-based models of meeting the clients’ needs (MOH, 2016).

Across the FGD, KII and IDI interviews, ALWHIV, caregivers of minors and health care providers reported multiple barriers that clients encounter while seeking ART care services at the CDDPs. From the demand side of the health system, barriers were categorized as individual and family level barriers while from the supply side, our study reported health system related barriers which affect timely ART care service delivery. In our study, individual level related barriers included limited levels of privacy, individualized fears and worries, longer waiting hours at the designated venues and distance to CDDPs.

We found that the designated outreach points where ALWHIV accessed their drug refills from were not convenient because they had limited level of privacy. Some of the ALWHIV did not mind being seen collecting their drug refills because they considered their health more important than the pointing of figures and back biting by the community. On the contrary, to some ALWHIV, lack of privacy meant that the community knowing your HIV status which might translate into individualized stigma, failure to disclose health problems, missed appointments, poor adherence and retention at the CDDP. Similar findings have been reported in other studies in which clients reported HIV related stigma within the community as one of the main factors which affected utilization of CDDPs (Zakumumpa, Rujumba, Kwiringira, Katureebe, & Spicer, 2020; Zakumumpa et al., 2021).

In the present study, as much as CDDP model obtained voluntary consent from the ALWHIV before enrollment, some of them did not want their sero status to be known by the group members and the community because of fear of community HIV related stigma and loss of friendship. The group nature of CDDP model has been reported to breach confidentiality of HIV sero status among the peers. Similar findings were reported in qualitative studies done in Uganda (Zakumumpa et al., 2020; Zakumumpa et al., 2021) and in South Africa (Mukumbang et al., 2022).

Contrary to what has been reported in literature as benefits to community-based models, our study found that ALWHIV spend reasonable number of hours waiting before ART refills were provided at the CDDPs. Long waiting hours arises from the group nature of the model where reasonable number of the clients are required to be available at the collection point before providing ART service delivery. Our study found factors ranging from fear of being seen collecting ART refills, limited levels of privacy, failure to keep time for the scheduled appointments, long distance and health care providers’ lack of reliable means of
transport to carry pre-packed ART refills to the designated outreach points contribute to longer waiting hours at the CDDPs. Although clients spent considerable hours waiting at the CDDPs, time spent waiting for ART refills is not comparable to that of facility based DSD model.

Family related barriers which affected utilization of CDDPs included forgetfulness of the scheduled visits, heavy work load on some of the ALWHIV, while others were stigmatized by insults and abusive statements of caregivers who were not their biological parents. All these barriers hinder ALWHIV from keeping scheduled appointments. Literature elsewhere concurred with these findings (Mukumbang et al., 2022).

Conclusion

This is one of the first studies providing insights into the barriers and facilitators to utilization of CDDPs among ALWHIV in rural settings in Uganda. Our study adds important public health evidence that CDDP as one of the community-based models effectively serves clinically stable ALWHIV of low level of education. In addition, HCPs at the CDDPs combines ART drug refills for those who keep appointments and home delivery for those who miss scheduled visits to minimize interruptions in adherence, improve retention in care and attain optimal outcomes.

Limitations and Strengths

This study has limitations which are important to acknowledge. Our sample of health facilities and participants were not generally representative of the ALWHIV seeking ART services from the CDDPs nationally in Uganda which limits the extent of generalization of our study findings. However, our samples of health facilities had representation from the 2 major health facility (HC IVs) in Lira district. Our findings from the explorative qualitative study offered in-depth understanding of the barriers and facilitators to utilization of CDDPs among ALWHIV aged 10–19 years in the sampled health facilities in the rural settings.

Recommendations: Our study findings emphasize the need for health care providers to offer HIV service delivery in appropriate infrastructures used as CDDPs to protect the privacy and confidentiality of all the clients using the community-based models. Considering the group nature of CDDPs, clients need to be provided ART services on arrival not to wait for reasonable number of the group members to be available to minimize individualized fears, and group and community induced HIV related stigma. Furthermore, strengthening community engagement and sensitization is paramount in minimizing HIV related stigma experienced by the ALWHIV.

Declarations

Competing interests

The authors declare that they have no conflict of interest.
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Authors’ contribution

CM, EW, CO developed the initial draft of the proposal, conducted data analysis and interpretation of results. TM, SM, AJ, NR, SEM provided comments on the first proposal draft and contributed to the final draft of the manuscript. BA, EW and CO provided expert mentorship and guidance during proposal development and manuscript writing, put papers together and submitted the paper to the journal. All authors approved the final manuscript.

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Ethical approval and consent to participate

The study received ethical approval from Gulu University Research and Ethics Committee (Ref. GUREC-2021-169). Administrative clearance was obtained from the office of the District Health Officer (DHO), the Resident District Commissioner (RDC), Health facility administration, the In-charges for ART clinics, and village authorities. Written informed consent was obtained from all the study participants. Assent was obtained from all the minors aged 10 - 17 years.

References


