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Research Article

A Case Study on the Community ART Group Model of Care: Does It work for People Living with HIV and Healthcare Service Providers in Lesotho

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Abstract

The Community ART Group (CAG) model is a community-led model implemented to support people living with HIV to address barriers to HIV treatment continuity which remain a challenge in Lesotho. This study sought to explore the perspectives of people living with HIV and that of the healthcare service providers, regarding the CAG model in selected health facilities in Lesotho. An explorative descriptive qualitative study was conducted among purposively selected 20 people living with HIV and 8 healthcare service providers at 3 healthcare facilities. Qualitative data were collected through face-to-face in-depth interviews using semi-structured interview guides. All interviews were audio-recorded and transcribed verbatim. Thematic analysis was used following an inductive approach and sub-themes and themes were developed. The CAG model was relevant and acceptable to most of the respondents. They felt that it provided support to people living with HIV, promoted good adherence to treatment, improved treatment access, reduced transport costs, saved time, and reduced stigma. Good retention, favorable clinical outcomes and decongestion of health facilities were identified as key achievements linked to the CAG model. Age, proximity to the health facilities, readiness to disclose positive HIV status, availability of a variety of differentiated service delivery models, family support, and the level of trust emerged as factors affecting the acceptability of the model. Conflicts arising among members of the groups compromised service delivery quality and insufficient resources emerged as challenges. The results confirmed that the Community ART Group model can deliver intended peer-led support to People Living with HIV, resulting in the achievement of favorable clinical outcomes. It is therefore recommendable to consider investing in this community-led model for a sustained HIV response in the country.

Keywords

Perspectives, PLHIV, Healthcare Service Providers, Community ART Group Model, Health Facilities, Lesotho

1. Introduction

The Human Immunodeficiency Virus (HIV) epidemic remains a global public health challenge and 37.7 million people were estimated to be living with HIV globally at the end of 2020 of which over two-thirds (2/3) reside in Africa [1]. Lesotho falls among the countries with the highest HIV prevalence of 23.6% in the world [2]. Despite the high HIV prev-

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alence, the country continues to implement robust interventions to achieve the global HIV cascade targets to sustain the HIV epidemic control and ultimately achieve HIV elimination. To achieve global targets for the treatment and prevention of HIV, most high-prevalence countries are working towards scaling up alternative service delivery approaches or differentiated service delivery (DSD) models [3]. Even though there is remarkable progress towards the achievement of the stated global targets, routine program data portrays that substantial gaps remain, especially regarding the retention of people living with HIV (PLHIV) in HIV Care and treatment. This challenge results in high morbidity and alarming numbers of HIV and AIDS-related deaths among PLHIV. Lesotho experiences about 4800 AIDS-related deaths annually [4]. HIV/AIDS is, by a wide margin, the primary cause of mortality in Lesotho, with 41.4% of deaths amongst both adults and children [5].

It is therefore it is of critical importance to target interventions that address the challenge faced with the retention of PLHIV in HIV care and treatment.

Service delivery issues need to be addressed to increase treatment access and strengthen the continuum of HIV care through the provision of a people-centred response [1]. Interventions that would identify people at greatest risk of disengagement should be introduced, and help support their retention in HIV care as well as facilitate return to care for those already disengaged [6]. Similarly, DSD models aim to achieve several potential benefits to both providers and patients, including better clinical outcomes, greater patient satisfaction, lower cost, and more efficient and convenient service delivery [3]. The CAG model is a community-based model which was introduced in Lesotho in 2016 after its pilot and it was envisioned to address some of the barriers to HIV treatment uptake through peer-to-peer support and consequently achieve treatment continuity. It is defined as a group model in which a patient picks up medications for other group members [7].

Communities living with and affected by HIV must play a prominent role in global HIV response and communities are recognized as a 'critical catalyst' to achieving the health-related targets in Sustainable Development Goal (SDG) 3 [8]. Communities remain a critical catalyst in combating HIV and build in building a sustainable HIV response hence there is a need to invest more in community-led interventions [9]. Community-based interventions are further recommended by the World Health Organization (WHO) to support adherence to HIV treatment and retention in care [10]. This study, therefore, sought to explore the perspectives of PLHIV (service beneficiaries) and healthcare service providers (HCSPs), regarding the CAG model to inform the national HIV program for targeted national response.

2. Materials and Methods

The target populations were PLHIV enrolled in CAGs and nurses working at ART departments at selected study sites in Lesotho. The study sites were purposively selected due to their location in different ecological zones of the country being rural, foothills and urban. An explorative qualitative descriptive design was used to explore the phenomenon. Data were collected using semi-structured face-to-face interviews with 28 participants who were purposively sampled. Interviews were conducted in the local language (Sesotho) according to the preference of the study participants. All interviews were audio recorded with participants' consent. The principle of data saturation was used in determining the sample size. Data were transcribed verbatim and translated into English. Thematic Analysis was used following the inductive approach and results were presented in sub-themes and themes.

Permission and ethical clearance were sought from the National University of Lesotho Institutional Review Board (IRB), and the MOH Research and Ethics Committee (*ID42-2022).* Gatekeepers of the health facilities involved in the study also granted permission for the researcher to proceed. The study was fully explained to the participants for their informed choice regarding their participation. Data for this study was adequately protected from all unauthorized persons.

3. Results

3.1. Demographic Characteristics

3.1.1. Demographic Characteristics of PLHIV

The majority of the PLHIV participants were not formally employed. Six were farmers, five were factory workers, one was brewing traditional beer, one was doing piece jobs, two were housewives, two were village health workers, one was a retired watchman and one (1) was the Early Childhood Care and Development (ECCD) teacher. Their duration on antiretroviral therapy (ART) ranged between one year and eight months to 14 years and were in CAGs for more than one year to seven years. Only four were in CAGs for less than three years while 16 were in CAGs for a period above three years.

3.1.2. Demographic Characteristics of the Nurses

A total of eight healthcare service providers who were nurses working in the ART departments of the study sites were interviewed. Seven of the respondents were female nurses while one was a male nurse. The respondents were aged between 26 and 52 years of age. Most of the respondents belonged to the 35-39 years category.

3.2. Themes

Four themes and 16 sub-themes emerged from the data analysis as shown in Table 1 below.

Table 1. *Themes and Sub-themes.*

Themes	Sub-Themes
Availability of Support for PLHIV	Adherence to ART is promoted
	Access to treatment is promoted
	Social bonding is promoted
	HIV-related Stigma is reduced
	The CAG model saves time and money for transport
	Job security is improved by reducing absenteeism from work
Favorable clinical outcomes are achieved	Viral load suppression
	Stable health conditions
Healthcare service delivery is improved	Health facilities are decongested
	The workload is reduced
	Retention in care and adherence is improved
Acceptability of the CAG model is influenced by several factors	Age of members
	Proximity to the health facilities
	Availability of a variety of DSD initiatives
	Readiness to disclose positive HIV status
	Level of trust in members of CAGs

3.2.1. Theme 1: Availability of Support for PLHIV

Most respondents described that the CAG model was relevant due to its ability to promote peer-to-peer psychosocial support which in turn facilitates acceptance and disclosure of the HIV statuses, adherence, access to ART, and social bonding amongst PLHIV in their communities.

'But the CAG is important in that when you take treatment as a group one gets counselled and accepts her/himself when realizing that "ah"! My siblings I did not know that even mme Sarah takes ART. Does this mean we all take treatment?' (P1SJ, a 67-year-old female proclaimed); 'We are able to accept and take our treatment well without hiding it'. (P20LD, 62-year-old female reiterated)

The nurses echoed the same sentiments as PLHIV respondents regarding this point.

'…it helps them be able to accept their status.' (N2LK, female 39-year-old stated); 'They provide each other support, I think I already mentioned it that many times after you test and discover that there is HIV, it becomes difficult to accept the status but of course if you learn that your friend or neighbour has the same problem as yours, you discuss about it and provide each other with strategies'. (N3SJ, a 45-year-old female stated).

Adherence to ART is promoted: Most respondents perceived the CAG model as supporting adherence to HIV treatment for PLHIV.

'The truth is we do not do favours for one another there, we also check whether you are taking your treatment well'. (P17LD, a 44-year-old female stated.); 'We discuss and see how many tablets are left for each of us.' (P19LD, a 41-year-old female added). 'We do say "treatment should be taken" when others are fearful to take their treatment and hide them in toilets and under the pillows. Us we say "treatment should be taken." (P6SJ, a 54-year-old male added).

The nurses also reiterated;

'If your adherence is not good they tell you that "no, you when we went to the clinic we were told that you do not take your medication well, take your medication well so that our CAG does not get dissolved'. (N1LK, a 26-year-old female stated); 'She herself will be telling you "hee, they helped me a lot my group members in a CAG. They did set an alarm for me or every time mme Mantho sends me a message to say "let us take our treatment'. (N5LD concluded).

Access to treatment is promoted: Most PLHIV respondents expressed that access to their HIV treatment is promoted through peer support and this enable them to carry on with other life commitments.

'According to me, the way I see it is a good idea as when we have commitments, we feel for each other, one of us is able to represent us to collect our treatment so that we do not run out of our treatment. (P6SJ, a 54-year-old male stated); 'But when we do have commitments, it cannot happen that you find yourself being without medication, because I know that if I have a certain commitment, my other partners will be able to collect medication for me'. (P8SJ, a 74-year-old male echoed).

The nurses also reiterated:

'The importance is that there are months in which a patient can relax without coming to the facility as other members will collect the medication'. (N7LD, a 52-year-old female remarked).

'Also, for the fact that others do not have time because of work, so when he/she in CAG they manage to take turns and continue taking treatment without necessarily being absent from their work or other life commitments that could prevent him /her from coming to the health facility.' (N4SJ, a 38-year-old female added).

Social bonding is promoted: Study participants expressed that they perceive the CAG model relevant as it promotes social support and good social relations within the communities and amongst the CAG members and they also stated that this support extends beyond health-related support for PLHIV but also on other social aspects.

'That thing makes us friends, understand one another, and it helps that when I have a challenge I am able to be free and open up and they are able to solve that challenge where need be'. (P1SJ, a 67-year-old female stated); 'Even not only in sickness only but also about family issues we are able to advise each other on them as well about the challenges that we meet with.' (P16LD, a 41-year-old female

echoed).

The nurses explained:

'They are like siblings; I see them there supporting one another a lot'. (N3SJ, a 45-year-old female stated.); 'So, it does improve the social life as they are able to care for one another, themselves.' (N6LD, a 36-year-old female added).

HIV-related Stigma is reduced: The respondents stated that the CAG model has helped in the reduction of HIV-related stigma among PLHIV.

'It has also removed even the fear of saying "what will they say, will they say I take ARVs" no!' (P16LD, a 41-year-old female explained); 'No, before joining the group, I was not comfortable at all, even when I had a problem. I think I was afraid of other people, the truth is beautiful, when we started using this treatment, we were living in fear because of all the bad things that were discussed about this condition.' (P11LK, a 47-year-old female stated)'

One nurse reiterated:

'There is no more an issue of stigma because someone else has been taking their treatment"! (N2LK, a 38-year old female said)

The CAG model saves time and money for transport: The participants' views were that the CAG model saves time and money for transport while promoting access to HIV treatment as it reduces the frequency of clinic visits by each CAG member.

'CAG is very important because we take a long time after being given a lot of medication. We do not come monthly'. 'That is where it is important.' (P8SJ, a 74-year-old male demonstrated); 'I regard them as being important because we don't walk a lot – we rest a lot. When one member goes to the facility the rest of us, we rest'. (P11LK, a 47-year old female reiterated).

Nurses also explained:

'Even transport wise in terms of money, those that need transport, it saves it'. (N3SJ, a 45-year old female remarked); 'Again, it helps even our clients by cutting expenses for them of coming here in the health facilities every 3 months when they are taking turns like that one would find that he/she comes to the health facility once in a year'. 'So, it helps them a lot' (N5LD, a 38-year old female echoed).

Job security is improved by reducing absenteeism from work: Some of the participants expressed that the CAG model has supported in reduction of absenteeism from work and hence improved their relationships with their employers and saved their jobs.

'It helps me because I go to work, employers at times are not satisfied by me saying all the time that "I am going for a check-up, I am going for a check-up. But when I have another person in between it becomes easier. Employers do not become tired of me'. (P20LD, a 62-year old female stated); 'The benefit that I find is that truly I no more miss work compared to when we were coming individually'. 'That is its main benefit.' (P17LD, a 44-year old female reiterated); 'The benefit that I see is that there in CAGs is that even at work, we do not miss frequently'. (P18LD, a 30-year-old female resonated).

One nurse reiterated:

'Yes, others do work; others work in South Africa like truck drivers who are always on the road and you find that when it's time to collect, they are far away. But when they are in CAG, they know that another member will collect for them.' (N8LD, a 51-year old male reiterated)

3.2.2. Theme 2: Favourable Clinical Outcomes Are Achieved

Many of the respondents stated that CAG members do influence one another to go for clinical monitoring of the viral loads and this improves the clinical outcomes of members.

'Yes ma'am, during the blood draw we all come to the facility as a group and we all have our blood drawn, after which we start again on our pick-up routine rotations.' (P11LK, a 47-year-old female stated); 'We tell each other that "it is our month to go and do blood draw, so let us go"! She explained; 'For our group, we all go to the facility during blood draw, even if it was your turn in the previous month, we all go for blood draw'. (P12LK, a 53-year-old female reiterated).

The nurses also explained:

'But now, it makes work easier in that, if it is time for monitoring they will come as a group, and I will monitor all those people well.' (N4SJ, a 34-year-old female explained); 'Also, blood, they have their blood timely drawn'. (N1LK, a 26-year-old female added). 'As for the individuals it is only my responsibility as a nurse to chase him/her, if she/he does not want to come for blood withdrawal I chase her/him alone. There we do assist one another as many'. She concluded.

Viral load suppression: Some of the respondents described their perspective on the CAG model influencing PLHIV viral load suppression, associated with good adherence as a result of peer-to-peer support that is received through the model.

'Also, that our achievements in our bodies indeed, we show change even in times when we have managed to be taken blood when we are given results, they show good results. CD4 / Viral load results that make us happy.' (P7SJ, a 53-year old female highlighted).

Nurses reiterated:

'---So, such issues help us more especially… I do not remember our clients who are in CAGs having a high viral load.' (N5LD, a 39-year old female remarked); 'So, you find that my CAGs, their adherence truthfully is good, their viral load is suppressed and is satisfactory you find that it is not detectable, it is good.' 'So, in CAGs I don't have a problem of high viral load at all' (N6LD, a 36-year old); 'But most of them who are in CAGs are virally suppressed'. (N4SJ, a 38-year old female reiterated).

Stable health conditions: Participants expressed how people enrolled in CAGs have stable health conditions.

'Achievements are those that we see ourselves living indeed without being troubled by so many sicknesses that we used to experience before'. (P10SJ, a 57-year old male denotes); 'Also, as members of CAGs, we do not have illness problems, things like that'. (P17LD, a 44-year old restated); 'another achievement is that we don't have a lot of deaths, which could be said: "he/she passed on while in CAG". No, we don't have that issue.' (P1SJ, a 67-year-old female recapped).

Nurses further elaborated:

'Another one is that as I have indicated, we have identified that they do not come to the clinic due to other illnesses. This is because they help one another, they take treatment well, and this improves their health in general. Adherence is good' (N2LK, a 39-year-old highlighted).

3.2.3. Theme 3: Healthcare Service Delivery Is Improved

Nurses described that they perceived improved service delivery as a result of the CAG model.

Health facilities are decongested: The CAG model facilitated a reduction of congestion in healthcare facilities, as fewer numbers of patients are seen per day and this improved infection prevention and control, as well as reduced the workload.

'Even to us as the service providers, it benefits us a lot because we do not see them in large numbers as before when they were supposed to come five of them, only one comes and this saves time'. 'Yes, it has also helped a lot in terms of prevention of COVID'. (N3SJ, a 45-year-old female proclaimed); 'Inside this health facility of ours, it has reduced congestion of patients coming in a day. (N5LD, a 39-year old female explained); 'It has reduced the number of people coming for services. (N1LK, a 26-year-old female further clarified).

The workload is reduced: Most nurses stated that they perceived the CAG model to be assisting them to see fewer numbers of patients which resulted in a reduced workload.

'The workload reduced significantly, and this enabled us to focus on patients requiring other services because ART patients are many'. (N2LK, a 38-year old female highlighted); 'It reduces workload' (N6LD, a 36-year old female also reiterated).

Retention in care and adherence is improved: The CAG model was described as having achieved improved retention in care and adherence through the promotion of access to treatment for those enrolled.

'I think the issue is only that I have seen when we joined the CAG like I have said it is the one that is reducing the frequency of missing appointments / defaulting'. (P19LD, a 41-year-old female stated).

'The most important achievement indeed for us as CAGs is that the majority of CAG members take their treatment well, even when they come to health facility they are told that they are doing well'. (P1SJ, a 67-year old female suggested); 'Indeed, we are using our medication in a good way. We do not skip them. We take them at an agreed time.' (P11LK, a 47-year-old female echoed).

Nurses reiterated:

'I think one of the achievements that we have is that of retaining many people because of these CAGs.' (N5LD, a 39-year-old female flagged); '-----Yes, defaulters are reduced because they remind one another. I have seen them as not giving the challenges because they do come for their appointments, CAGs do not default, it is rare.' (N4SJ, a 38-year-old female specified).

'Again, another achievement is that our adherence indeed has improved especially for those people in CAGs. It is good.' (N1LK, a 26-year old female stated); 'mmmhh (yes), the achievement that we have is adherence, also, our people in the CAG model have all drawn blood, and their results are good'. 'Our achievements, I will just say it is good adherence.' (N8LD, a 51-year-old male echoed); 'That in itself shows us that these CAGs work well on the issue of adherence.' (N5LD, a 39-year-old female added)

3.2.4. Theme 4: Acceptability of the CAG Model Is Influenced by Several Factors

The narratives of most participants indicated that the CAG model is acceptable though not by everyone and that its acceptability is dependent on certain factors.

'Yes indeed, as for them (groups) we are happy about them, a lot'. (P4SJ, a 56-year-old female stated); 'They are acceptable indeed. The way I see people joining CAGs in numbers teaches me that they are accepted'.' (P16LD, a 41-year-old female added).

The nurses resonated:

'But patients do not want to get out of CAG because they have seen its importance. That's why you find that they adhere'. N8LD, a 51-year-old male stated); 'No! I have not met a client who says they are going out of the CAG, it's just that they keep complaining and communicating to us that they do wish to join 'Bonolo meds', but now due to the relationship that they already have within their CAGs which feels like another family to them- support it is not easy for one to leave their family/ support system)'. (N5LD, a 39-year-old female reiterated).

In contrast, some PLHIV respondents perceived the CAG model as not being fully acceptable to other people within their communities. Most Participants perceived that the CAG model acceptability is affected by several factors, namely: age, proximity to the facilities, readiness to disclose, family support and level of trust and suspicions (Fear of poisoning and witchcraft).

'Now we were 7 but only 3 of us are left. This shows that people do not like it. They really do not like it. They clearly stated that they did not like it'. (P5SJ, a 68-year old remarked); 'No, they refuse. They say they do not like CAGs'. (P18LD, a 30-year old female reiterated).

Age of members: Both cadres of the respondents had a view

that the CAG model is more acceptable among the older age group as compared to the younger age group.

'Also, this happens more among the younger people, they get out of the CAGs as they leave to search for jobs. This means poverty also contributes to making support groups weaker in communities because people leave. Because of poverty people go out of the CAGs to go and look for jobs. (P1SJ, a 67-year-old female stated);

The nurses explained:

'So those people who can accept their status up to that far, the majority I have seen that it is the elderly people. The old people do not have challenges but as for the youth they do not like CAGs at all.' (N1LK, a 26-year-old explained); 'You know, I think these younger ones, do not yet want other people to know about their statuses.' 'As for the elderly, they do not have stress at all'. She added.

Proximity to the health facilities: Some of the nurses stated that acceptability of the model also depends on the distance to the health facilities and that most patients residing closer to the health care facilities do not usually accept being enrolled in CAGs, as they felt they could easily access their treatment.

'However, people will always differ and I will show that people near the health facility are not keen on the CAG model because they say "We are close to the health facility; I will go there all the time. But those who are far have accepted it very much'. (N2LK, a 39-year old female remarked); 'There are some who you will find out that indeed even if you explain to them you find out that truly he/she is not interested in it that much. I think it is because they feel they are close to the health facilities, they easily access services.' (N5LD, a 39-year-old female reiterated).

Availability of a variety of DSD initiatives: Many of the respondents stated that they perceive a variety of differentiated service delivery (DSD) initiatives that also promote access to treatment, affecting the acceptability of the CAG model.

'In communities, there are still some challenges indeed, there are still some challenges that people are still not interested to join the CAGs, the reason contributing more is that of late we do receive treatment for so many months, so they say they do not see the importance of joining the CAG because they still receive their medication for many months'. (P1SJ, a 67-year old female pronounced); 'She only said, "I do not want, I go by myself I am still given my treatment, I still spend a long time just like you". (P9SJ, a 64-year old female remarked) 'But before then, I used to see it being liked by many people and having interest in it to be in CAGs. So now due to the Bonolo- meds, they also say "No, I too do not miss frequently." (P19LD, a 41-year-old female echoed).

Nurses' perspectives:

'Yes! Sometimes I think we don't talk about them enough, like I said I've noticed that the BONOLO model is the one people prefer'. (N7LD, a 52-year-old female further elaborated); 'I see as another reason that contributes to them not wanting to join the CAG because if I already come to the clinic twice a year I do not have a reason of now telling my neighbour that I take the ARVs and join the CAG'. (N1LK, a 26-year-old female said).

Readiness to disclose positive HIV status: Readiness to disclose the positive HIV status was perceived to play a role regarding the acceptability of the CAG model, in that the model is joined by those who are ready to disclose their statuses while those who are not ready to disclose do not join due to lack of confidentiality.

'Aaah! ma'am, we do work well, apart from those outside who would say "No I cannot do that to have my medication collected by others! Other people will know that I am taking ART". (P10SJ, a 57-year-old male proclaimed); '.... it depends on individual people, I think it is those who still have fear because recently I talked to one of my neighbours and said "Why don't you join us here"? And she said, "No I do not want". (P20LD, a 62-year-old female reiterated).

Nurses' perspectives:

'In the community, it is accepted. People see its benefits, it is just that there are some patients who do not want their statuses to be known and say they cannot be part of it, isn't that automatically when one becomes part some members will see, so they do not want to be seen.' (N3SJ, a 45-year-old female added). 'In the community, it is only a few that you will see not having the challenge but the majority of people, say they do not want other people to know that they are living with HIV.' (N4SJ, a 38-year-old female concludes).

Level of trust among members: Some participants perceived that fear of being poisoned or bewitched during treatment collection affected the acceptability of the CAG model.

'Others said they might be poisoned. Yes, ma'am, they fear witchcraft'.'. (P5SJ, a 68-year-old female stated); 'So, others form them but others indeed do not want other people to collect treatment for them as they associate it with saying that another person might put something in their medication, but then I see as though most of those do not have interest in issues relating to the CAG model.

One nurse exclaimed: '*Poison or witchcraft!'* (N4SJ, a 38-year old female suggested).

4. Discussion

Achievements of the CAG model: Many of the respondents had the perspective that the CAG model had managed to improve peer-to-peer psycho-social support and that CAG members end up being like siblings and/or friends supporting one another in all aspects of life, beyond the boundaries of HIV care and treatment. The findings further depict that most of both cadres of study participants perceived the CAG model to have improved the peer-to-peer psycho-social support through which good adherence, reduced HIV related stigma reduced rates of defaulters to ART are achieved, which con-

sequently resulted in improved retention or treatment continuity in HIV care for PLHIV. CAG members claimed that their adherence to ART had improved because of the peer support they received in the CAG [11].

The CAG model was perceived to be addressing factors that are viewed as barriers to HIV treatment uptake. The results further demonstrate that the CAG model has managed to promote access to HIV treatment as those enrolled in CAGs support one another in the collection of their ART, and therefore, they do not run out of their medication. Moreover, the respondents further confirmed that they can attend to their diverse personal commitments when they are in CAGs. They further indicated that the CAG model plays a role in saving their work as it has reduced absenteeism and hence it was observed to be addressing issues of anxiety among working PLHIV and restoring a sense of job security and harmonious relationships with their employers. Some PLHIV respondents demonstrated that even if they travelled, they knew that their peers in CAG would assist in the collection of their treatment, and ensured that they did not run out of treatment. This, therefore, contributes to a reduction of defaulters and the rate of disengagement from HIV treatment and significantly improved retention in HIV care among patients in CAGs than those who are not [12].

The study findings also established that through the improved level of peer-to-peer psycho-social support, the CAG model improved the coverage of blood monitoring for CAG members through the support the members provided for one another whilst going for blood withdraws as some stated that they remind one another and even go together when their time comes. Nurses also confirmed their perception that CAG members are virally suppressed. This finding agrees with the study conducted in Zimbabwe suggests that the healthcare workers reported that the overall quality of care for CARG members has improved and saw communal support provided through CARG membership as a major benefit for clients [13].

Both PLHIV categories of respondents perceived the CAG model to be having a positive influence on clinical outcomes for PLHIV, in terms of achieving viral load suppression and attainment of stable health statuses. The results are echoed by other studies that suggest that retaining patients in care results in viral load suppression [14, 10]. Moreover, these findings concur with the study conducted in Uganda which demonstrates that most clients on ART received community care, and these clients saw better CD4 evolution, fewer missed appointments, and higher retention than clients receiving ART at the facility level [15].

The findings depict that most of the respondents perceived the CAG model to be contributing to the reduction of workload on healthcare workers, as well as decongesting the health facilities due to fewer consultations [11]. The results also depict that the CAG model is perceived to have played a significant role in the control and prevention of some infectious diseases such as COVID-19. This concurs with the study suggesting that most healthcare workers noted that not having many ART clients gathering at the clinic reduced transmission of communicable diseases such as tuberculosis [13].

Relevance and Acceptability of the CAG model: Most study participants perceived the CAG model relevant and beneficial due to its ability to promote peer-to-peer psychosocial support resulting in acceptance and disclosure of the positive HIV statuses, stigma reduction, adherence to HIV treatment and ultimately good health outcomes. Several factors, however, were identified to be influencing the acceptability of the CAG model and those included age, proximity to the health facility, availability of other DSD models, levels of trust, and readiness to disclose the HIV status.

Both cadres of respondents perceived the CAG model being more acceptable amongst PLHIV belonging to the older age group, as compared to the younger ones. Their perception was that the younger ones are very mobile; migrating to other cities in search of jobs which agrees with other studies that, migration due to poor economic conditions disrupts CAGS operations as members leave to look for jobs [13]. The results further suggest that those PLHIV belonging to the younger age group are often not ready to disclose their HIV statuses, hence reluctance or lack of interest in joining CAGs. This finding is in line with other studies suggesting that challenges associated with community-led models, especially among adolescents include lack of confidentiality and privacy including perceived stigma [16].

Nurses perceived the CAG model as being acceptable to PLHIV who are ready to disclose or who already disclosed their positive HIV statuses. They perceive a lack of confidentiality existing in community models rendering the CAG model unacceptable to PLHIV who are not yet prepared to disclose their positive HIV statuses. This finding is in line with the study which established that one of the barriers to joining CAGs is unwillingness to disclose one's HIV status [11], while other studies demonstrated that patients are often apprehensive of the idea of bringing care closer to their place of residence, mainly due to fears of stigmatization or accidental disclosure [3].

Moreover, both cadres of the respondents perceived that the level of trust determines the acceptability of the CAG model amongst PLHIV, as some are suspicious and not interested in joining CAGs because of fear of being poisoned or bewitched by other CAG members during treatment pickup. The respondents also perceived a variety of DSD models that also promote access to HIV treatment affecting the acceptability of the CAG model. This finding settles with other studies that discovered that over the year 2020, models that minimized contact, such as multi-month dispensing (MMD) and external medication pickup points have expanded in many countries; while those that were designed to create contact, such as adherence groups, have diminished [7]. Proximity to the health facilities was perceived as one of the factors affecting the models' acceptability as some of the

respondents stated they perceived that those closer to the health facilities are not interested in joining CAGs as opposed to those living far from the health facilities.

5. Conclusion

The findings of this study revealed that the CAG model was perceived relevant, acceptable, and beneficial by most of the respondents, especially due to its ability to provide peer-to-peer psychosocial support. The sense of belonging improved social ties and the ability of CAG members to encourage one another and discuss issues amongst themselves were perceived to be making a remarkable contribution to the reduction of stigma related to positive HIV status, promotion of good adherence to ART as well as openness, thus creating a positive and relaxed environment for PLHIV.

The CAG model was further perceived to be addressing barriers to treatment and promoting access by the majority of participants. All these were associated with achievement of viral load suppression which was reported to be observed among members of CAGs. Some of PLHIV were reported not to be in favour of the model and it revealed that certain factors play a role in determining the acceptability of the model.

Abbreviations

ART	Anti-retroviral Therapy
CAG	Community ART Group
HIV	Human Immunodeficiency Virus
PLHIV	People Living with HIV
DSD	Differentiated Service Delivery
SDG	Sustainable Development Goals
WHO	World Health Organization
HCSP	Health Care Service Provider
IRB	Institutional Review Board
MOH	Ministry of Health
MMD	Multi-Month Dispensing

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Author Contributions

Setungoane Lucia Tsehloane: Conceptualization, Resources, Data curation, Formal analysis, Validation, Investigation, Methodology, Writing of original draft

Isabel Nyangu: Conceptualization, Supervision, Writing original draft, Writing – review & editing

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Data Availability Statement

The data supporting the outcome of this research work has been included in this manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

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Biography

Setungoane Lucia Tsehloane is a Registered Nurse and a Midwife in Lesotho. She has been in the healthcare industry since 1998. She has recently acquired her Master's Degree in Nursing Sciences with a specialty in Community Health and Nursing Education as a minor from the National University of Lesotho (NUL). She also has a Bachelor's Degree in Nursing Sciences (adult health) from the same University in 2004. In addition, she obtained a Diploma in General Nursing and Midwifery in 1997 and 1998 respectively from the National Health Training College. She worked in several clinical settings in the country and the United Kingdom. Additionally, she has worked in Non-Governmental Organizations in public and community settings. Currently, she is working as a Retention Advisor at the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) in Lesotho supporting the efforts towards HIV treatment continuity in the country.

Research Field

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