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Forming a *Kanyakla*: A qualitative study to develop a novel social support intervention for adolescents living with HIV

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ABSTRACT

Introduction: HIV is a leading cause of morbidity and mortality among youth in sub Saharan Africa. This study explores the adaptation of an adult social network intervention for adolescents, entitled *Kanyakla*.

Methods: The study was conducted in Kisumu, Kenya from July to November 2016. Data was collected from: (1) semi-structured interviews (n = 32) with adolescents living with HIV aged 15–19; and (2) two focus group discussions (n = 21). Transcripts were coded using thematic analysis through the lens of an Adolescent Development Model.

Results: Participants were interested in joining a *Kanyakla* to build social support, learn new skills, and partake in recreational activities. Many participants feared inadvertent disclosure related to stigma. Certain dichotomous themes emerged including the need for privacy versus the need for social support; and the desire for inclusion of elders versus preference for same-aged peers in the *Kanyaklas*.

Conclusions: With this study, we have key information that can be applied to developing the *Kanyakla* intervention for adolescents. Further study is needed to reconcile the dichotomies that emerged.

1. Background

HIV continues to be a leading cause of morbidity and mortality in the developing world among adolescents, who comprise the only age group in which AIDS-related deaths have increased over the past decade (UNAIDS, 2013). While overall AIDS-related deaths fell by 30% worldwide over the past ten years, adolescent deaths have increased by an estimated 30–50%. There are approximately 2.1 million adolescents living with HIV (ALWH) with over 80% living in sub-Saharan Africa (UNAIDS, 2013).

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1.1. Adolescent HIV treatment challenges

ALWH face specific challenges that impact health-seeking behaviors. The optimal management course for ALWH is early enrollment and consistent care to prevent anti-retroviral treatment failure, opportunistic infections, and transmission of HIV (Braitstein et al., 2011; Ndiaye et al., 2009). Compared to adults and children, adolescents are less likely to be tested for HIV, seek HIV-related health care services, and achieve viral load suppression (UNAIDS, 2013). Adherence to antiretroviral therapies (ART) among adolescents is impeded by fear of disclosure due to HIV-related stigma, low socio-economic status, poor mental health, and poor social support (Reisner et al., 2009; Stephenson, 2009). In many cases, parents of ALWH have died from AIDS-related illnesses and adolescents have subsequently been raised by extended family members. Many adolescents experience the stress of frequent migrations that occur in conjunction with parental separation, divorce, and/or remarriage (Clark & Cotton, 2013). These factors impact the type of social support that they can derive from common family structures.

In addition to family challenges, ALWH experience stigma from multiple social structures, including school and work. HIV-related discrimination has been studied in the school setting; exemplified by a South African study which showed that fear of discrimination prevented ALWH from disclosing their HIV-serostatus to teachers (Birungi, Obare, Katahoire, & Kibenge, 2011; Petersen et al., 2010). In a study among Kenyan youth who were lost to follow-up, HIV-related stigma was found to operate at multiple levels in the family, school, and clinic, impacting relationships with adults who would otherwise be potential sources of social support (Wolf et al., 2014).

In 2013, the Kenya Ministry of Health developed the adolescent package of care (APOC) as a model to treat adolescents at all health facilities in Kenya (National AIDS and STI Control Programme (NASCOP), 2014). APOC is meant to aide health care providers in providing comprehensive adolescent health services including HIV treatment and prevention. While APOC is a good first step, evidence-based interventions are needed to address the high prevalence of HIV stigma among ALWH, thereby improving long-term retention in care and viral load suppression.

1.2. The microclinic model

A microclinic is a social network-based intervention that has previously been applied to management of adult chronic diseases (Prescott et al., 2013). In a microclinic, participants engage in periodic group discussion sessions led by trained moderators to provide health education and social and emotional support, with the goal of managing and preventing spread of disease (Microclinic International, 2015). Microclinics employ the concept of social capital, which refers to the ability of individuals to secure benefits by virtue of membership in social networks or other social structures (Portes, 1998). Psychosocial supports are indirect ways of leveraging social capital to access goods and services normally obtained by using traditional capital; which could include clinic visits, medications, transportation, and health advice. In return, network supporters expect adherence to care regimens and provide positive peer pressure for healthy behaviors. Thus, the basis of a microclinic is the informal social contract of exchanging social capital for positive health behaviors.

A large ethnographic study across several sub Saharan African countries revealed that access to social capital was a key catalyst of adherence to HIV treatment (Ware et al., 2009). An adult HIV microclinic intervention was implemented in Mfangano Island, Kenya and resulted in improved clinic retention, and adherence to ART (Hickey et al., 2015). This intervention helped shift care from an individual approach to an approach that utilizes a network of ones' pre-existing support (Salmen et al., 2015). Thus far, microclinic models have not been well studied among adolescent populations. This study explores the adaptation of the HIV microclinic intervention for adolescents in Kisumu, Kenya through triangulation of results from individual interviews and focus group discussions (FGDs). Additionally, the FGDs provided preliminary data on feasibility of the intervention.

1.3. Adolescent development

It is important to explore how a microclinic intervention for adolescents may differ from a model oriented towards adults. Adolescent development occurs within the context of peer groups that can either protect individuals or predispose them towards high-risk behaviors with negative health outcomes (Fergus & Zimmerman, 2005). Living with HIV, particularly in a resource-poor setting, presents special challenges as adolescents develop their sense of self and formulate life goals. Brown & Larson identified four key developmental psychosocial tasks that occur during adolescence [2009]. They include: *Standing out*, the development of identity and pursuit of autonomy; *Fitting in*, the formation of networks and gaining acceptance from peers; *Measuring up*, the development of competence and achievement; and *Taking hold*, the commitment to particular goals, activities, and beliefs.

Engaging in certain behaviors can either foster or hinder the accomplishment of these four developmental psychosocial tasks. Likewise, adolescents may turn to risky behaviors to cope with failure of these tasks. There are dichotomies in this model that reflect paradoxes inherent to the process of adolescent development, however, adolescents must find a balance between forming individual identity and finding commonalities with peers.

1.4. Adolescent microclinic model

Incorporating previous work (Wolf et al., 2014), the theoretical model that depicts social support from social networks as a positive influence on physical and mental health (Heaney & Israel, 2008) and Brown & Larson's 4 key psychosocial tasks (2009), we formulated a model (see Fig. 1) that articulates the relationships between the goals of the microclinic and adolescent development tasks. This model was developed as a lens to interpret participants' perspectives of the microclinic intervention within the context of

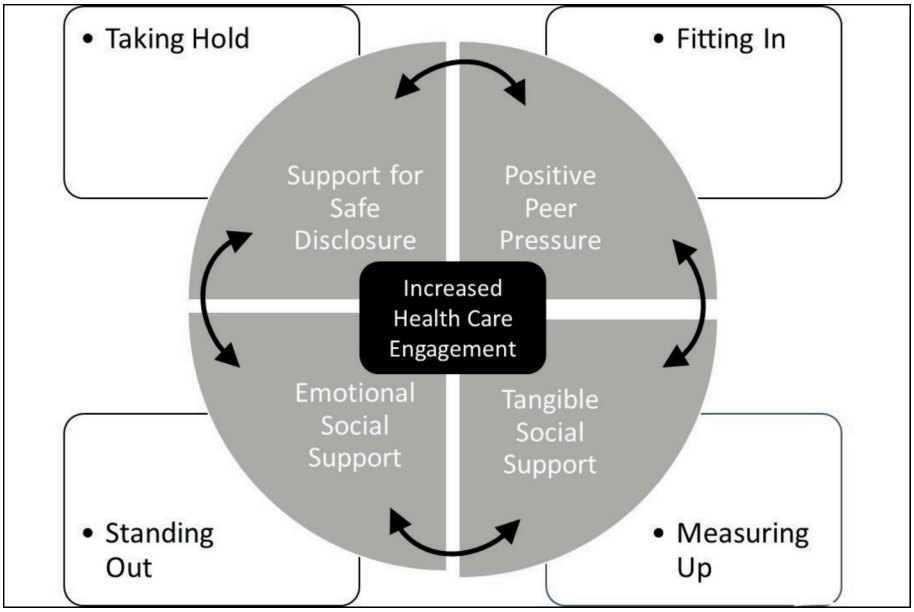

Fig. 1. Adolescent development tasks in the context of a microclinic model.

adolescent development and associated psychosocial tasks. For example, an adolescent microclinic would promote successful accomplishment of the task of "Fitting In" by providing *Positive Peer Pressure* to attend the microclinic consistently and "Taking Hold" by providing Support *for Safe Disclosure* of serostatus as a commitment to one's long-term health. The tasks of "Standing Out" and "Measuring Up" would be promoted by providing *Emotional and Tangible Social* Supports that can encourage participants to successfully cope with their illness. By increasing health care engagement in an intervention that promotes safe disclosure, positive peer pressure, and emotional and tangible social supports, adolescents are more likely to accomplish age appropriate tasks that foster their development to adulthood while promoting health-sustaining behaviors.

1.5. Study objectives

This study explores the adaptation of an adult social network microclinic intervention for adolescents entitled "*Kanyakla*," which is a *Dholuo* (local language) word for 'togetherness' or 'club.' We explored adolescents' attitudes to and perceptions of the *Kanyakla*, identified ideal characteristics of *Kanyaklas*, as well as potential challenges and barriers to participation.

2. Methods

2.1. Setting

This study was conducted in Kisumu, the third largest city in Kenya, located in the Nyanza region, with a population of nearly 400,000 people and a high proportion of youth and adolescents (Kenya National Bureau of Statistics (KNBS), 2010). The overall HIV prevalence in the region is 15.1%, which is almost three times the overall HIV prevalence in Kenya (National AIDS and STI Control Programme (NASCOP) Ministry of Health Kenya, 2013). Although HIV medications and health care may be obtained for free, ALWH and their families face challenges of meeting basic financial needs including purchasing food, transportation, and utilities.

2.2. Participants

We recruited adolescents from five government-run HIV clinics in Kisumu County. Semi-structured interviews were conducted with 32 HIV-positive adolescents aged 15–19 years. Eighteen of the interviewees were patients who were active in care, while 14 interviewees were patients who had not returned to care in the last three months, defined as lost to follow-up (LTFU).

Two FGDs with youth aged 13 to 22 were held after the interviews, and were formed from the social networks of interviewees who expressed interest in further participation in the study (FGD-1 had 11 participants and FGD-2 had 10 participants). Social network participants were of similar age to index participants and most were unaware of each other's HIV status. Social network participants were comprised of adolescent relatives, friends, schoolmates, and neighbors. All of the FGD participants were unmarried.

2.3. Procedures

The majority of the research team has worked extensively in Kenya. The study team included a Kenyan physician and a Kenyan social scientist who helped provide input on participant's cultural contexts. Trained trilingual Kenyan research assistants with at least five years of experience conducted both the interviews and FGDs. Interview participants were purposively sampled from the 201 participants enrolled in the parent study, which attempted to recruit all ALWH between the ages of 15 and 19 who had attended the five HIV clinics in the past year. Interviewers from the parent study alerted the study coordinator after interviewing someone who was interested in participating in the qualitative interviews. The study coordinator then invited participants to participate in the qualitative interviews, taking into consideration gender, age, and whether participants were LTFU in order to ensure the sample represented the larger population for those factors. Interviews took place at five government-run HIV clinics in Kisumu County and lasted 1–2 h. Interviews were conducted in all three of Kisumu's major languages, Kiswahili, Dholuo, and English (and sometimes a combination). The interviews started with explanation that a "*Kanyakla*" is a group formed by youth consisting of their own social network members, such as trusted friends and family, to provide support to one another. The interviews then proceeded with a semi-structured interview guide.

Two FGDs were held with three HIV-infected index participants and social network participants in each group. Index participants successfully recruited their social network members to form the two FGDs. Both FGDs took place in the meeting room of a local hotel in Kisumu based on suggestions from the individual interview participants and lasted about 3 h. All focus group members participated and no known adverse events occurred. The FGDs were conducted in English, with rare exception of a Kiswahili or Dholuo phrase that was translated to English by moderators. Each participant was assigned a number to be used instead of their name. Each session featured a consenting process, a discussion about the meaning of "Kanyakla" similar to the interview process, an "ice-breaker" introduction of participants, a detailed group discussion of desirable and undesirable social network dynamics, and a hypothetical break-away session during which participants planned the logistics of their own potential *Kanyakla* meeting. All groups successfully accomplished this task in a cooperative and efficient manner. Transportation costs were provided to all individual interview participants and focus group participants. Participants did not have any exposure to the intervention, but were asked about preferences for a potential future program.

2.4. Protection of human subjects

The study was approved by the Institutional Review Boards at Georgetown University and the Kenyan Medical Research Institute. Written informed consent was provided by all participants. To protect adolescents who may not have disclosed their HIV status to their guardians, parental consent for adolescents aged 15–17 years was waived. All participants were given a verbal test to evaluate their understanding of the consenting process prior to their participation.

2.5. Measures

Individual interviews and FGDs evaluated the following topics: 1) participants' understanding of a *Kanyakla*; 2) whether they would participate in a future *Kanyakla*; 3) whom they would ask to participate and why; 4) where, when, how often, and for how long they would want to meet as a group; 5) what activities they wanted to do during the future meeting; 6) what would make them more likely to participate, and; 7) what challenges they might face while participating. Each FGD also featured an exercise in which participants broke up into smaller groups and planned the logistics of their own potential *Kanyakla* meeting. After their planning session, participants presented the timing, location, and activities of their hypothetical *Kanyakla* meeting to the larger group, including the reasoning behind their plan.

2.6. Analyses

Each interview and FGD was recorded, transcribed, and (where necessary) translated into English. Two steps of coding using ATLAS.ti software (version 1.0.43; Berlin, Germany) were performed. First, open coding was performed on transcripts to develop an initial framework for broad themes based on major topics from the interview and FGD guides. This open coding step was used to develop an initial structured codebook that triangulated results across both interviews and FGDs. The two first authors (HW, SC) coded five individual interview transcripts together, allowing for discussion of similarities and discrepancies, and a refined codebook was formed. The co-first author (SC) then coded all of the transcripts in Atlas.ti using secondary selective coding methods to form a final codebook. Random transcripts were then selected and analyzed by HW with the final codebook to test for consistency and variation until theme saturation was achieved.

Interview and FGD data were interpreted with thematic analysis informed by background literature on adolescent development, social network interventions, and stigma among populations living with HIV. The data was analyzed for nuanced themes and special attention was given to themes that were frequently discussed and reached saturation.

3. Results

Thirteen male and 19 female adolescents completed individual interviews. The mean age of interview participants was 16.9. Fifty-six percent (n = 18) of interview participants were currently enrolled in school, 97% (n = 31) were literate, and 78% (n = 25) were

Table 1
Identified themes with quotes and the percent/number of participants whose statements were consistent with each theme.

Theme	Quotations	Index Participants Referencing Theme (n = 32)
Prioritization of confidentiality and trust	*"There are people who can keep quiet with [ones HIV status]. However, there are those who will know and talk carelessly about it."* *"You know men very well. This person from [clinic] might see you, talk about it and the information will reach other community members. A lot will be said."*	100% (32/32)
Desire for social supports	*"We can discuss how to be supportive … When I talk of friends supporting you, maybe you are sick and go to the hospital. There are notes in school obviously. One of them will volunteer to write the notes on your behalf."* *"They [kanyakla members] will remind you to take the drugs when it is time to do so. When you have an exam in school, they will volunteer to come to the hospital. They help you in times of problems so that your life isn't affected."*	81% (26/32)
Anonymity fosters candor	*"… we will be free with the person since we don't know him that much or her that much, so there is that openness that we will have."* *"I will be comfortable learning from someone not known to me. I will be active because I want to learn. But when it is someone whom I know, I will be less active."*	81% (26/32)
Preference for non-clinical meeting location	*"[If] In Lumumba [Clinic] … I will not attend the event. I will get to the venue and claim that something came up. I will then disappear."*	69% (22/32)
Perception of elders as dependable supports	*"It is hard for me to listen to my age mate telling about those [health] things."* *"When I was staying with [my aunt] and felt sick, I could see her reactions … She hired a car and [we were] taken to the [hospital] . She handled the issue very fast … She would ensure that I go to the school and adhered to my appointments."*	59% (19/32)
Desire not to include teachers due to maltreatment	*"I was beaten in the school yet that is something which had never happened to me … I was really beaten."* *Of how his school came to know of his HIV + serostatus: "It was the teacher. He was a biology teacher. It was my first day in school. I stopped liking teacher from that day."*	25% (8/32)

unmarried.

Participants felt that the *Kanyakla* would give them the opportunity to participate in recreational activities including the opportunity to learn new skills. They also felt the *Kanyakla* could enhance their self-worth and provide increased social support, and improved health and well-being. For the *Kanyakla* to be successful, participants stressed the importance of confidentiality and trust within the group. Participants were concerned that if information shared within the *Kanyakla* was made public, people would disclose participants' HIV status inadvertently, leading to increased stigma and social isolation. Table 1 describes major themes identified with associated quotes and number of participants who identified each theme.

3.1. Index participants challenges

Interview participants reported challenges in their lives that could serve as either motivators or deterrents for participation in a *Kanyakla*. Some challenges included those related to family structure and a lack of open family dialogue. Some of these challenges were typical of adolescents based on their development stage. One 16 year-old (yo) female participant said,

> "My mom mostly likes 'lecturing' people. Since I was a young girl, I have never felt that my mother is always around for me. I therefore prefer being with friends than my parents."

Migration was a prominent challenge faced by this group. Adolescents who move frequently may have been raised by extended family, stepparents, and neighbors who function as extended kin. Sometimes these adolescents relied more heavily on friends for emotional support given the fluctuation of family structure. For example, one 17 yo female interview participant said of her biological mother,

> "She can work in Tanzania for almost two months. When she comes back, she is always busy with her work … my dad took me and then I lived with someone else who is not my real parent … I then started struggling for myself alone. So, I am [more] used to being with friends than family."

Participants reported typical family dialogue centered on education, work, and chores, resulting in lack of balanced attention to other issues of importance to them such as health and relationships. Suggesting that adolescents desire a venue in which they can discuss health with people whom they trust. Multiple participants reported general health, maternal health, and nutrition as potential desired topics for discussion in a *Kanyakla*.

3.2. Desired characteristics of social network participants

Most participants wanted the *Kanyakla* to include people who already knew their HIV status because of fear of stigma resulting from involuntary disclosure to others. Participants named trust, respect, and dependability as valued characteristics of people they would like to recruit for the *Kanyakla* intervention. Love, friendship, length of relationship, and close living proximity were of lesser

importance to ALWH when considering people to include in the *Kanyakla*. Participants noted that having a longer period of time in the *Kanyakla* would create trust and give participants the opportunity to get to know each other. One 17 yo female interview participant noted that it takes a few months to build trust:

"They will just be 'there' for even three months without talking. They will just listen and tell you, 'Yeah, it is good … However, they will never tell you what they feel inside them because they are afraid and shy. You therefore add them three or four months so that they can bring out their minds."

Participants described not feeling understood by their parents and expressed desire to spend time with same-aged peers. However, about half of the participants discussed preference to have older extended family members, more so than parents included, as these were the people they could rely on in emergencies. Many participants such as this 16 yo male interview participant viewed older extended family members as ideal *Kanyakla* participant:

"Because someone older than me did pass through that age … He or she knows it better than me. If I take an age mate, it is like misleading one another." Participants also were interested in having experts or people with experience present for the Kanyakla. When speaking about the type of people to include in the Kanyakla, an 18 yo male said: "Yes, the experience is what I want. I don't want to listen to someone who has just read a book or looked at it on the internet … I can do that as well."

Despite being open to elders, many participants in both the interviews and FGDs expressed either hesitation or opposition to having teachers or school officials present. For some participants, this sentiment seemed to be simply about not wanting to see their teachers outside of school. For other participants, this opinion was due to experiences of maltreatment, abuse, and unauthorized disclosure of HIV serostatus by teachers.

Another demographic preference was religiosity. While not frequently mentioned, religiosity was mentioned in both interviews and FGDs as a consideration for their *Kanyakla*. One 15 yo male interview participant said of his desired *Kanyakla* members:

"They should be God fearing. When someone is God-fearing, there are things that you can disclose to them that you won't tell others. For example, I can pick my pastor. We can easily fit that group with him even though we hardly communicate."

One 18 yo male index focus group participant implied that his experience with the church was that they were closed off to discussions related to sex:

"So when you are planning these things, can you think how Kanyakla can have some interventions within the churches? Because there are other churches where if you talk about sex issues – I don't know, it is a criminal offense … These people in the church … should be talked with."

A majority of participants expressed some preference for anonymity in their ideal *Kanyakla*, which corresponds with participants' fear of stigma and prior negative experiences with disclosure. In discussing desired personality characteristics of *Kanyakla* participants, one 15 yo male interview participant said, "*I will … prefer to use anyone who doesn't know my status.*"

3.3. Meeting logistics

Most participants said a *Kanyakla* group of 5–15 members was ideal because of the logistics of organizing common meeting times and being able to give attention to all members equally.

Many participants reported a strong preference in meeting outside of clinical settings due to stigma and fear of accidental disclosure. This was especially true of clinical settings that primarily deliver care to HIV-positive patients. For example, one 17 yo male interview participant expressed concern about inviting people to the clinic:

"In [the clinic] … We will go and come back with our friends … Now, the other person will see me there and he has come with his trusted friends … People will see each other and the trust will end."

3.4. Meeting goals and activities

Interview and FGD data suggested that adolescents value both tangible and emotional social support for health and school, especially during times of illness. One 16 yo male interview participant felt that in a *Kanyakla*, "*they will remind you to take the drugs when it is time to do so. When you have an exam in school, they will volunteer to come to the hospital. They help you in times of problems so that your life isn't affected …*" Many participants also discussed emotional support in relationships, including romantic, friend, and family relationships. Regarding romantic relationships, participants felt that they could not discuss interpersonal relationships at home and preferred to do so with same-aged peers. Several interview participants also said *Kanyakla* meetings could be an event to look forward to during the week to escape home stress.

To motivate participation, retention, and social bonding in a potential *Kanyakla*, skill-building and recreational activities can be offered. Older participants discussed their desire to learn more about finances, saving, and 'table banking.' Computer classes were also popular along with other recreational activities including: sports, swimming, music, acting, and board games.

3.5. Kanyakla recruitment strategies

Participants described several different recruitment strategies to bring people into their potential *Kanyakla*, including not

discussing HIV/AIDS, highlighting topics that might be interesting to the recruited person, and gentle coaxing. Multiple participants mentioned that their peers would have interest in learning about health topics as well as going to a location that would be perceived as fun, such as a hotel or a swimming area. For example, one 17 yo female interview participant said:

> "I will tell my neighbor that we are having a group meeting. It is not about HIV/AIDS … [I] can tell her that they are the normal clinic visits which we had during our pregnancies."

3.6. Incentives to participation

When asked about incentives and motivation to participate, both tangible items and social capital categories were named. For example, participants mentioned that mobile airtime and electronic equipment would increase their likelihood of engagement in the *Kanyakla*. One 19 yo female interview participant wanted skill-building activities in the *Kanyakla: "At least people will come out of the Kanyakla after learning something. You can use the skills to work and earn a living. I will use the money earned to buy some of the basic needs."* Other participants discussed wanting to support friends who need a respite from home stressors: "*Some of my friends … they have some problems at home. I would like them to solve these problems when we are together.*" (19 yo Female interview participant).

3.7. Lost to follow-up interview participants

Overall, LTFU interview participants expressed more hesitation to participate in a *Kanyakla*. Significantly, the three participants who definitively said they would not participate in a *Kanyakla* were LTFU. LTFU participants did not have significant support from their parents or caretakers. When asked about challenges in staying active in care, one 17 yo LTFU female interview participant said, "*My mother was rude to me. She said that she wouldn't welcome anyone who is taking drugs in her house. She said, 'No one asked you to get the virus.'"*

While we did not compile quantitative data on household income in this study, the participants who were LTFU seemed to have greater socioeconomic difficulties. When comparing the type of supports desired from a *Kanyakla*, the adolescents in active care described transportation support, help taking medicine, or relationship advice. While, the LTFU participants described more basic supports such as food for family members and money to help pay for rent and utilities. The LTFU participants were more mobile, and also had migratory family members searching for better economic opportunities. Many LTFU participants had family members who moved to more distant locations such as Tanzania or Mombasa for work. In being more mobile, participants reported wanting to include friends or family that lived farther away in their social networks.

3.8. Preliminary feasibility of the Kanyakla intervention

Focus group participants described their challenges of getting parental permission to come to a meeting and having to demonstrate completion of chores and school work prior to coming to the meeting. Few focus group participants arrived on time, with both FGDs starting about 90 min after the intended start time. Contrary to the interviewees who expressed a preference for anonymity in *Kanyakla* participation, focus group participants were social, recruited friends who did not know their HIV status, and many exchanged contact information with each other afterwards.

4. Discussion

Interview and FGD data revealed that ALWH are interested in participating in a *Kanyakla* with motivations of acquiring tangible and emotional supports (including support with HIV care and treatment), which was also the case for the adult HIV microclinic intervention (Salmen et al., 2015). However, some forms of desired social support are more characteristic of this developmental period, such as wanting to join a community to get and give advice on relationships and to gain perspectives from participants (Christie & Viner, 2005). While all adolescents benefit from a peer social network, adolescents with relatively more social isolation related to their fear of disclosure, stigma and discrimination have a need for a more formal social network (Flicker et al., 2005). For our study population, we found that the most desired social support was assistance and care during times of illness, demonstrating opportunities for the *Kanyakla* to develop specific support mechanisms.

Several dichotomies emerged from the interviews and FGDs related to privacy, age preference of recruited social network members, and logistical considerations for forming meetings. Understanding these complexities must be considered when adapting a microclinic for adolescent populations. Fig. 1 depicts how the *Kanyakla* intervention will improve participants' healthcare engagement in the setting of their developmental stage and associated psychosocial tasks. The desire for privacy in adolescence is characteristic of this stage of their development (Brown & Larson, 2009), and has a special importance for ALWH navigating the disclosure process. The interviewee's desire for privacy is juxtaposed against participants' behavior during FGDs, during which participants invited peers who were not aware of their HIV status. Because the FGD data is derived from a relatively smaller sample, it is unclear whether adolescents are more inclined to share with each other than the interviews suggest. An adolescent-specific social network intervention should be sensitive to this dichotomy, attempting to minimize risk of inadvertent disclosure to participant's supporters, and promote safe disclosure to friends and family who can provide health-related support.

Ideally, the *Kanyakla* intervention could have multiple types of meetings that included both peer-aged groups that meet more frequently, to foster "fitting in," as well as older extended family members who could join the group monthly. Different age groups

were perceived as being able to provide different types of supports. Youth and peer mentorship models such as Big Brothers/Big Sisters have been studied and lead to increased communication about sexual and romantic relationships, among US cohorts (Kaufman, 2010), as well as improvements in health behaviors such as increased condom use and decreased likelihood of having multiple sexual partners (Davey-Rothwell, Tobin, Yang, Sun, & Latkin, 2011). Incorporating a peer mentorship model into the *Kanyakla* between older adolescents and younger adolescents could provide opportunities for positive peer relationships, offer relatively more privacy than group discussion, and potentially reduce chances of becoming LTFU.

Many participants, particularly the LTFU group, experienced high mobility over their life course and had extended family or friends that lived far away, whom they wished to include in their *Kanyakla*. The high mobility of this population further demonstrates the need for accessible adolescent social support networks (Taylor et al., 2011). Many participants described enjoying maintaining these relationships via mobile phone, although some acknowledged that it was difficult not seeing loved ones in person for several years. Mobile phones are increasingly ubiquitous and public health campaigns utilizing short term message reminders for clinic appointments and medication administration have had some success (Conserve et al., 2017). The current generation of adolescents is relatively more comfortable using mobile phones and internet to maintain relationships (Subrahmanyam & Greenfield, 2008). A virtual component to the *Kanyakla*, such as videoconferencing, could supplement an in-person model, particularly for highly migratory adolescents with distant contacts. While most individuals do not have access to smart phones, videoconferencing during the *Kanyakla* via technology such as a laptop with wifi access provided during the *Kanyakla* session may be feasible. Thus far, no virtual microclinic models have been studied, however, this could be a promising modality of social support for certain adolescents to be studied in future research.

Limitations of this study include sampling bias and cultural-linguistic variations in data interpretation. Adolescents are a heterogeneous group, posing challenges in developing healthcare interventions. Meaningful and growing differences among socioeconomic status, urban and rural locality, ethnicity, religion, differences in developmental stage, and sexual orientation are well documented among adolescents (Johnson & Lichter, 2010). In interviewing a substantial number of participants who were LTFU, we attempted to reach a more diverse group of adolescents. The adolescents who were willing to be interviewed and who were willing to participate in the FGDs may be more likely to seek social support at baseline, which may be a sampling bias. Lastly, certain euphemisms may have been lost in translation since multiple interviews were conducted in 2–3 different languages.

5. Conclusion

ALWH in Kisumu had certain preferences regarding their participation in a *Kanyakla*, which should be incorporated into the formation of an intervention. Special attention needs to be given to reducing chances of inadvertent disclosure as well as education to reduce stigma, which was also the case with adult HIV microclinic (Salmen et al., 2015). ALWH feel participating in the *Kanyakla* would help them achieve goals of giving and receiving social support, gaining health and relationship advice, adhering to healthcare regimens, learning practical skills, and enjoying recreational activities as a group. With this study, we now have information that can be applied to developing the *Kanyakla* intervention through involvement of stakeholders to further refine the intervention, which will then be pilot tested with adolescents in Kenya. Adolescents throughout sub Saharan Africa struggle with HIV-related stigma and adherence to care and could possibly also benefit from culturally tailored microclinic interventions (Hodgson, Ross, Haamujompa, & Gitau-Mburu, 2012; Stephenson, 2009). We hypothesize this intervention will reduce HIV-related stigma, increase safe disclosure, and increase social support, ultimately improving the health and well-being of ALWH.

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