A Qualitative Examination of Perceived Stigma and its Sources Among Adolescents Living With HIV in Western Kenya

Grant Callen, MD1,2, Ashley Chory2,3, Festus Sang2, Dennis Munyoro2, Josephine Aluoch2, Michael Scanlon1,2, Leslie Enane, MD1,2, Megan McHenry, MD1,2, Kara Wools-Kaloustian, MD1,2, Edith Apondi, MBChB, MMED2,4, and Rachel Vreeman, MD, MS2,3,5

Abstract
Introduction. Adolescents (10-19 years) living with HIV (ALWH) face unique challenges in controlling HIV long-term, including stigma and perception of stigma within their communities. Methods. We conducted a qualitative investigation of the sources of perceived HIV-related stigma with ALWH in western Kenya. Forty-six ALWH on ART, aware of their status, and engaged in care were enrolled. Interviews explored perceived stigma by probing the individuals and experiences that adolescents identify as causing or perpetuating their ongoing fears. Results. Participants (54% male, mean age 17.4) reported ongoing fears of stigmatization related to friends and peers not living with HIV. They described previous enacted and first-hand observations of stigma, most often occurring in pre-adolescence, by age mates or peers at school as the most common cause for their ongoing fears. Conclusions. Perceived stigma is prevalent among ALWH and develops from experiences in pre-adolescence. Anti-HIV stigma interventions addressing educators and children in school settings to combat perceived stigma at its source should be investigated.

Keywords
HIV, Adolescents, Stigma, Kenya, sub-Saharan Africa

Received November 4, 2021. Accepted for publication November 20, 2021.

Introduction

Anti-HIV stigma is among the most complex and multidimensional factors impacting the continuum of HIV care and associated clinical outcomes for people living with HIV (PLWH).1 Previous work to understand anti-HIV stigma has led to the development of the HIV Stigma Framework, which identifies enacted, anticipated, and internalized stigma as 3 mechanisms affecting the HIV care cascade.2 This framework has been validated for use in urban populations of PLWH in the US3 and has been utilized in adult populations in Sweden.4 Despite its lack of validation in low-and-middle-income countries (LMIC), previous research has used the HIV Stigma Framework to examine enacted, internalized, and anticipated stigma—commonly referred to as perceived stigma5—among adults living with HIV around the world.6,7 This work is critical, especially in LMIC, as demonstrated by a 2019 review that highlighted negative health-related stigma outcomes in these settings for “high-burden” diseases, including HIV.8

1Indiana University School of Medicine, Indianapolis, IN, USA
2Academic Model Providing Access to Healthcare, Eldoret, Kenya
3Arnhold Institute for Global Health, Department of Health Systems Design and Global Health, Icahn School of Medicine at Mt. Sinai, New York City, NY, USA
4Moi Teaching and Referral Hospital, Eldoret, Kenya
5Moi University, Eldoret, Kenya

Corresponding Author:
Grant Callen, Indiana University School of Medicine, 705 Riley Hospital Dr. Indianapolis, USA.
Email: gtcallen@iu.edu

Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (https://creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).
However, neither the evaluation of stigma-related health outcomes, nor qualitative examinations of anti-HIV stigma experiences, have historically focused on the outcomes and perspectives of children and adolescents living with HIV (ALWH). A recent systematic review of qualitative studies examining the experiences and attitudes of PLWH, where nearly half of all included studies assessed individuals’ perspectives on stigma, did not include a single study assessing this key population.

Worldwide, the WHO estimates that there are 2.2 million children living with HIV, 90% of whom reside within sub-Saharan Africa. In Kenya, there are nearly 230,000 children and ALWH, only 61% of which are estimated to be on anti-retroviral therapy (ART). Importantly, ALWH represent the fastest-growing subgroup of PLWH, given both the increased incidence of new HIV infection within this age group and the growing number of perinatally-infected youth reaching adolescence and young adulthood. Adolescence is a critical period of biological, psychological, and socioemotional development; for those living with HIV, this also requires significant development of autonomy and self-identification with their status. Moreover, ALWH must cope with an awareness of “difference” from their friends and peers that often leads to disruptions in their relationships with others. These differences impact ALWH at a critical time in their development, especially as it relates to social cognition and their perception of others’ responses to their HIV status. Anti-HIV stigma and its perceived prevalence by ALWH, therefore, may play a significant role in their development and critically impact their long-term HIV clinical outcomes, including their persistent engagement with HIV care, their adherence to antiretroviral therapy (ART) and their subsequent viral suppression and survival.

Previous studies with PLWH have demonstrated that perceived stigma—defined as a persistent fear of stigmatization or discrimination—negatively impacts their clinical outcomes. Studies have demonstrated that perceived stigma was associated with delayed initiation and presentation to HIV care and negative impacts on long-term retention in care and ART adherence. For many adults living with HIV, perceived stigma manifests as fear of accidental disclosure of their status and a secondary loss of resources. Given that we know perceived stigma largely affects the interpersonal relationships of adults living with HIV and their care outcomes, it follows that perceived stigma would be a significant threat to achieving robust ART adherence for ALWH, who are already at significant risk for treatment failure, early mortality and morbidity.

Therefore, a thorough exploration of perceived stigma and its impact on ALWH and their care outcomes is critically needed and should begin with understanding adolescents’ experiences with anti-HIV stigma. These experiences are difficult to measure or define given that there are few validated, quantitative tools for assessing stigma in this population and no tools for qualitatively assessing perceived stigma specifically. Previous work in this setting and other LMIC has utilized cognitive interviewing techniques to identify a high prevalence of perceived stigma amongst parent-child dyads living with HIV, but has not focused on the experiences of adolescents to ascertain the sources of their perceived stigma.

Our study sought to understand first-hand Kenyan adolescent experiences with stigma, how they understand the stigmatizing beliefs of others, and how these experiences impact their ongoing perception of stigma. Our goal is to learn from our participants’ perspectives in order to identify targets for anti-stigma interventions and demonstrate the importance of understanding the impact of perceived stigma on the care cascade for ALWH.

Methods

Study Design

We conducted a qualitative evaluation of the prevalence and sources of perceived stigma via semi-structured interviews with a sub-set of participants enrolled in the Adolescent Sentinel Cohort (ACE), a large study of ALWH established within the East Africa International Epidemiologic Databases Evaluating AIDS (EA-IeDEA) Consortium. The objective of the ACE study is to provide in-depth characterization of a cohort of perinatally infected adolescents both engaged in and disengaged from care, by describing HIV care-related characteristics, virologic outcomes and mental and behavioral health characteristics.

Study Participants and Setting

Participants were eligible for this study if they were adolescent aged 14 to 19 years at the time of their enrollment in the parent study, aware of their HIV status, on ART, and enrolled in care at 1 of 2 clinics affiliated with the Academic Model Providing Access to Healthcare (AMPATH) partnership in Western Kenya. AMPATH is a long-standing partnership between a consortium of North American academic medical centers, Moi University, and Moi Teaching and Referral Hospital (MTRH) in Eldoret, Kenya, which provides comprehensive HIV care for more than 160,000 individuals.

Participants were recruited from 1 of 2 AMPATH facilities: the Rafiki Center at MTRH, an urban clinic that provides HIV care services for more than 850 children
and adolescents, and the AMPATH Kitale Clinic, a peri-
urban facility serving over 600 ALWH.

**Data Collection and Analysis**

Participants were identified through enrollment in the
parent study through convenience sampling with equal
representation from the 2 identified clinics. Participants
were then contacted by research assistants to inform
them of the study opportunity, and if interested, were
scheduled to complete the interview during their next
clinic visit. Participants provided informed consent to
participate in a one-time, recorded interview. Interviews
were conducted in both Kiswahili and English by
research assistants trained in qualitative interview tech-
niques. A private room was used in each clinic to con-
duct and record interviews via handheld device.

This study utilized cognitive interviewing tech-
niques to assess adolescent sources of perceived
stigma. Participants were asked explicit questions in a
specific order in order to adequately frame their expe-
riences with stigma. Table 1 includes the stigma-related
interview questions in the order in which they were
asked. This line of questioning allowed participants to
first identify the targets of their ongoing fears of dis-
 crimination, in order to better understand the primary
perceived perpetrators of that stigma. In this way, par-
ticipants were primed with an emotional response (fear
or worry) before being asked to recall specific previous
experiences that caused the emotional response they
just described.43-45 Therefore, participant experiences
of stigma—either first-hand, observed, or overheard—
were directly connected to their fears of stigmatization
and discrimination. This emotional priming before
memory acquisition identifies the source(s) of their
perceived stigma.

Interviews were translated into English (from
Kiswahili), and transcribed for analysis. A system of man-
ual, progressive coding of the transcripts using Dedoose
software (Sociocultural Research Consultants, LLC) was
utilized to identify emerging concepts. Thematic analysis
was done through open coding by 2 researchers (GC and
FS), involving line-by-line review of transcripts to iden-
tify meanings and processes. These researchers indepen-
dently extracted and compared themes. Along with an
additional analyst (AC), the research team reviewed tran-
scripts several additional times to revise the coding struc-
ture as needed and compared and collapsed results based
on consensus across the 3 analysts (GC, FS, AC). Axial
coding, the process of relating categories to their subcat-
egories and linking them together at the level of proper-
ties and dimensions, was used to organize the themes into
their causal relationships. Hypotheses and concepts were
developed inductively from the data. Quotes as presented
here are excerpted directly from the English translations
of the transcripts.

**Ethical Approvals**

This study was approved by the Indiana University
School of Medicine’s Institutional Review Board, Indian-
apolis, Indiana, USA, and the Moi University / Moi
Teaching and Referral Hospital’s Institutional
Research and Ethics Committee in Eldoret, Kenya
(approval number 0003338). All participants gave
informed consent prior to enrollment in the study.
Participants received a one-time reimbursement of
500ksh (5USD) for their time and participation in the
study.

**Results**

**Participant Demographics**

We enrolled 46 participants in the study; 20 participants
were recruited from the urban site, Rafiki Center, and
the other 26 from the peri-urban site in Kitale. The
majority (54.3%) of participants were male, with an
average age of 17.4 years.

**Adolescents identify sources of perceived stigma.** Identified
sources were initially defined by the groups or individuals
whom participants described as being primarily respon-
sible for informing their ongoing fears. Table 2 stratifies
sources of perceived stigma based on the relationship
between the participant and the identified source.

**Adolescents describe experiences with HIV-related stigma.** Once
defined by the identity of perceived stigma’s infor-
mants, sources were then defined by specific experiences
of anti-HIV stigma that inform participant fears. These
experiences were divided into 3 categories: stories of
stigma, observed stigma, and previously enacted stigma.
These categorizations were made based on the relation-
ship of the participant to the individual experiencing dis-
 crimination and are differentiated from one another
based on the proximity of the participant to the specific
discriminatory act. Table 3 includes descriptions of these
experiences.

In this study, participants’ caregivers, their fellow
ALWH, and their schoolmates were identified most
often. While other individuals (schoolmates, peers,
etc.) often contributed to more concrete experiences of
discrimination, participants’ caregivers were associ-
ated with a more general sense of stigma’s preva-
lence—highlighted by quotations advising against HIV
disclosure and the importance of secrecy to “protect”
oneself from stigmatization. Importantly, these individuals inform participant fears through their words and actions but are not necessarily the perceived potential perpetrators of discrimination. Moreover, many of these individuals who contribute to participants’ perceived stigma continue to play ongoing, important roles in participants’ lives.

Participants frequently reported having previously heard stories of stigma occurring, with storytellers representing myriad areas of participants lives—from parents and friends to teachers and healthcare staff. These stories were most often primary accounts of previously enacted stigma that participants had heard from friends and peers living with HIV. Other times the stories were

Table 1. Semi-Structured Interview Guide—Sub-Section on Stigma.

| Order of questions | Question content | Probe/Code/Target |
|--------------------|------------------|-------------------|
| 1.                 | **Who knows about your HIV status?** (friends, family, teachers, neighbors, HIV+ peers) | Assess who patients have already disclosed to in order to understand level of comfort with known status. |
| 2.                 | **Who does not know about your HIV status?**  
**What concerns do you have about disclosing to those people?** | Assess who patients have not disclosed to and specifically ask what concerns them about disclosing to these groups. |
| 3.                 | **Are you ever worried that other people will treat you differently/badly because of your HIV status?**  
If you are afraid that people will treat you badly because of your HIV status, who do you worry about treating you badly? (friends, family, teachers, neighbors, HIV+ peers) | Assess the prevalence of perceived stigma with yes/no responses to first question stem (descriptive data).  
Identify the primary target of perceived stigma (ie, the person or groups whom the participant fears will stigmatize them). |
| 4.                 | **What experiences have you had that make you worry about those individuals or groups of individuals treating you badly?** What experiences have you had personally? What experiences have you heard about others experiencing?  
What have they done/said to make you feel this way? | Explicitly connects the targets of participants’ perceived stigma with lived experiences of stigma (enacted, observed, or second-hand narrative) to identify the “sources” of ongoing fears. |
| 5.                 | **If you have been treated badly by others because of your HIV status, would you tell me about that experience?**  
Who treated you badly? (friends, family, teachers, neighbors)  
Where did this experience take place? (at home, at school, in the clinic) | Describe past experiences of enacted stigma in narrative form that identifies the perpetrator of stigma and the location of stigmatizing experience. |
| 6.                 | **If you have ever seen other young people (friends, classmates, etc.) treated badly because of their HIV status, would you tell me about what you saw?**  
Who treated that other adolescent badly? (friends, family, teachers, neighbors)  
Where did you see this happen? (at home, at school, in the clinic) | Describe past experiences of observed stigma in narrative form that identifies the perpetrator of stigma against a person other than the participant and the location of that stigmatizing experience. |
| 7.                 | **If you have heard stories about other young people being treated badly because of their HIV status, would you tell me about being told those stories?**  
Who did you hear them from? (friends, family, teachers, neighbors)  
Where have you heard these stories? (at home, at school, in the clinic) | Describe past experiences of overheard or second-hand stigma in narrative form that identifies the storyteller and the location wherein the participant overheard or was told about the stigmatizing event. |
| 8.                 | **How does it make you feel when you see/hear about other young people being treated badly because of their HIV status?** (sad, mad, afraid, etc.) | Assess emotional responses to observed and second-hand stigma, with specific interest in fear-based responses as demonstrative of perceived stigma. |
When asked about previously observed discrimination, participants most often identified their friends, schoolmates, and community/village peers as perpetrators of stigma. Respondents described discriminatory beliefs or actions that their peers had expressed or undertaken in their presence and directly connected those experiences to their own ongoing fear of disclosure and subsequent isolation from their school-based peers. It follows that participants were most often concerned with being stigmatized by their friends and schoolmates, and specifically concerned about being socially isolated because of their HIV status. In fact, schoolmates—largely believed by participants to be adolescents not living with HIV—were the most commonly reported group to act as both a source and as perceived perpetrators of stigma.

Finally, participants described their own experiences as the direct targets of enacted stigma. The most common form of enacted stigma our participants had experienced was vengeful or purposeful disclosure by their peers. Participants often described being young and socially close to the perpetrators of discrimination in their stories, which led to very deep emotional responses to being stigmatized. Moreover, participants readily connect these specific experiences with their ongoing fears of stigma and cite them as reasons for their purposeful non-disclosure as adolescents.

### Discussion

HIV-related stigma remains a prominent source of fear and influence among ALWH. In order to differentiate sources of perceived stigma from the individuals whom participants perceive as potential perpetrators of stigma,
Table 3. Descriptions of Experiences Participants Identify and Connect to Ongoing Perceived Stigma.

| Types of previous experiences with stigma | Participant quotations |
|------------------------------------------|------------------------|
| **Stories of Enacted Stigma**            |                        |
| Quote 1:                                 | **Respondent:** So, there is someone with HIV and then people found it out. From what people think, they think that those who are positive should not be loved, should not be doing many other things because they think they can infect others. So, if you were staying in one room, they separate you to another room. If you were sharing a comb, you will no longer share it. They will give you your own comb. You will be left out and you will start asking yourself, was I born to be tortured? **Facilitator:** Okay. So that is a story that you heard? **Respondent:** Yes. The counselor told me. **Facilitator:** How did it make you feel when you heard that story? **Respondent:** I was saying to myself that should never happen to me. I felt like if it was me.—female, 15 years |
| Quote 2:                                 | **Facilitator:** Have you ever heard stories of people being treated badly? **Respondent:** Yes. . . **Facilitator:** How does it make you feel when you see or hear other young people being treated badly about their HIV status? **Respondent:** I don’t feel good because I imagine it is me, I put myself in that situation, someone mistreats you, underrates you and that. . . I don’t feel good.—male, 21 years |
| **Direct Observation of Stigma**         |                        |
| Quote 1:                                 | **Facilitator:** What experiences have you had that make you worry about those individuals or groups treating you badly? Have you had any worries about disclosing to them? **Respondent:** There was this girl in the village who they found out she was positive. So, they were like “this girl is positive, I cannot go near her, let her do her own things.” So, what if they know I have it? Will they not just do the same? Before they knew about that girl, they were just interacting well but after they knew it, they discriminated her.—male, 20 years |
| Quote 2:                                 | **Facilitator:** Who do you worry about treating you badly? **Respondent:** My friends. **Facilitator:** What experiences have you had of those individuals or groups treating you badly? Have you had an experience that makes you worry? **Respondent:** Yes. It was in school. There were people who come to act, and they were positive. So, they acted, and they used the cups of the school. We went and someone wanted to use that cup and then my friend told them, “wash that cup, they were all positive and you want to use the cup.”—female, 17 years |
| **Previous Enacted Stigma**              |                        |
| Quote 1:                                 | **Facilitator:** What experiences have you had with your friends that you worry about? **Respondent:** I remember a time I was in primary when the person who knew my status was only the school director. Then there was this friend of mine, he was my friend and also my competitor in class. We would share clothes and then the director saw like I may infect him. So, he [the director] told his father to tell his son to stop sharing everything with me. His father told him: “don’t share everything with that one who is HIV positive.” So, when we crossed ways with that friend - we didn’t even cross ways - I defeated him in class like four consecutive exam times. So, he got angry and said “this boy is HIV positive and defeats me? I will not accept.” He said it in a group and that way it spread to the entire school and everyone knew that I was HIV positive. So, I fear something like that happening again.—male, 17 years |
| Quote 2:                                 | **Facilitator:** Have you had any experiences that you have been stigmatized because of your status? **Respondent:** First of all, it was only one time when I was in primary school. I shared my story with a friend, I thought my friend was good. He was laughing and it was a disaster. He was a pretender. So, I told my friend and my friend told out and it was rumors between the class and the teacher knew. So, I was like discriminated, I was the topic. **Facilitator:** How did that make you feel? **Respondent:** Hey, I just felt like killing myself, to take away my life. You see. But after all I transferred school and at least things changed and then I continued with life. **Facilitator:** Okay. So, with that experience, it has made . . . [interrupted] **Respondent:** Until now I have that fear to speak out.—female, 17 years |
we sought to facilitate the connection between ongoing fears of stigmatization and specific actions or experiences that inform those fears. Participants were primed to focus on the identities of perceived potential perpetrators before being asked to describe specific past experiences that made them “worry” about being stigmatized by these individuals or groups in the future. The dialog between the facilitator and the respondent in several quotations throughout Tables 2 and 3 demonstrates participants’ understanding of the relationship between these experiences and their enduring concerns. From this line of questioning, we extrapolate that the experiences participants cite are some of the most salient in relation to their ongoing perception of stigma and therefore function as the sources of their fear.

Our data demonstrate that for many ALWH, the fear of stigmatization based on one’s status is rooted in childhood experiences with anti-HIV stigma, often perpetrated by age mates and peers. These fears are then reinforced by observations of stigmatizing behaviors and discriminatory practices amongst their friends and schoolmates. Other times, they are reinforced by the stories these adolescents hear from their peers living with HIV and from trusted adults, including caregivers and educators. The relationship between individuals as sources of perceived stigma and as perceived potential perpetrators is complex. For example, participants frequently identified their caregivers’ perceptions of stigma to express how it informs their own fears of discrimination without identifying their caregivers as individuals whom they feared. On the other hand, participants often cited their schoolmates as perpetrators of anti-HIV stigma whose stigmatizing statements and discriminatory beliefs inform participant perceptions of the prevalence of stigma among this group and lead to very specific fears of vengeful disclosure and social isolation. These findings are consistent with previous literature addressing the concerns of adults living with HIV, as well as parent-child dyads.

Conclusions

Perceived stigma is a common issue affecting ALWH and may exacerbate existing mental health challenges for this group. Given the pervasiveness of ongoing fears of discrimination, it is critical to understand the way that these fears impact ALWH and their engagement in the HIV care cascade. Our data demonstrate how participants connect previous anti-HIV stigma with their understanding of themselves and their own HIV status—often highlighting how these experiences made them feel badly about themselves and worry about being stigmatized in the future. Therefore, anti-HIV stigma interventions remain a critical component of successful long-term HIV care for children and adolescents living with HIV. Our results suggest that anti-stigma interventions meant to target the sources of perceived stigma should begin with primary school-aged children and not be delayed until adolescence. Furthermore, our participants identify the school environment as a critical setting for anti-HIV stigma interventions—particularly for faculty, staff, and students who perpetuate stigmatizing beliefs and discriminatory behaviors. Ongoing work with education stakeholders in this setting has demonstrated strong acceptability and desirability for anti-HIV stigma training and support for expansion of resources to local educators and other community groups. Although not specifically probed, school-based anti-stigma interventions were suggested by several participants. One young woman, when asked how we should use the data collected in this study to better care for ALWH, plainly said: “You need to visit schools and teach these other students that we are not different from them.”

Limitations

There are several limitations to this study. The perspectives gathered in this study are from a specific population in western Kenya and may not be generalizable to other regions in SSA or resource-limited settings. Moreover, inclusion criteria for this study required adolescent to be between the ages of 14 and 19 at the time of enrollment in the parent study, which may limit generalizability to other age groups. Lastly, participants were recruited from 2 HIV clinics within the same care system (AMPATH). Despite adolescent services being differently organized at both sites, their affiliation with the same care system may limit their generalizability to other ALWH and their experiences, especially in more rural communities.

Acknowledgments

We thank the NIH-funded East Africa International epidemiology Databases to Evaluate AIDS Consortium (EA-IeDEA), U01 AI0699111, for providing access to its study cohort. Research reported in this publication was supported by the National Institute Of Allergy And Infectious Diseases (NIAID), Eunice Kennedy Shriver National Institute Of Child Health & Human Development (NICHD), National Institute On Drug Abuse (NIDA), National Cancer Institute (NCI), and the National Institute of Mental Health (NIMH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), Fogarty International Center (FIC), National Heart, Lung, and Blood Institute (NHLBI), in accordance with the regulatory requirements of the National Institutes of Health under Award Number U01AI0699111East Africa IeDEA Consortium. The content is solely the responsibility of the
authors and does not necessarily represent the official views of the National Institutes of Health.

**Author Contributions**

Grant Callen and Rachel Vreeman led study design. Edith Apondi, Leslie Enane, Megan McHenry, and Kara Woolskaloustian contributed expert opinions to study design and implementation. Rachel Vreeman and Edith Apondi provided scientific oversight for the study. Material preparation, data collection, and analysis were performed by Grant Callen, Ashley Chorny, Festus Sang, Dennis Munyoro, Josephine Aluoch. The first draft of the manuscript was written by Grant Callen and all authors reviewed and contributed to subsequent versions of the manuscript. All authors read and approved the final manuscript.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Research reported in this publication was supported by the Fogarty International Center (FIC) of the National Institutes of Health and the Office of The Director, National Institutes of Health (OD) and the Office of Behavioral and Social Sciences Research (OBSSR) under grant#3D43TW009345-08S2 awarded to the Northern Pacific Global Health Fellows Program. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

**Ethical Approval**

This study was approved by the Indiana University School of Medicine’s Institutional Review Board, Indianapolis, Indiana, USA, and the Moi University/Moi Teaching and Referral Hospital’s Institutional Research and Ethics Committee in Eldoret, Kenya (approval number 0003338). All participants gave informed consent prior to enrollment in the study. Participants received a one-time reimbursement of 500ksh (5USD) for their time and participation in the study.

**Consent to Participate and for Publication**

Informed consent was obtained from all individual participants included in the study.

**ORCID iD**

Grant Callen https://orcid.org/0000-0002-7641-8417

**References**

1. Pescosolido BA, Martin JK. The stigma complex. *Annu Rev Sociol*. 2015;41:87-116.
2. Earnshaw VA, Chaudoir SR. From conceptualizing to measuring HIV stigma: a review of HIV stigma mechanism measures. *AIDS Behav*. 2009;13(6):1160-1177.
3. Earnshaw VA, Smith LR, Chaudoir SR, Amico KR, Copenhaver MM. HIV stigma mechanisms and well-being among PLWH: a test of the HIV stigma framework. *AIDS Behav*. 2013;17(5):1785-1795.
4. Reinius M, Wiklander M, Wettergren L, Svedhem V, Eriksson LE. The relationship between stigma and health-related quality of life in people living with HIV who have full access to antiretroviral treatment: an assessment of Earnshaw and Chaudoir’s HIV stigma framework using empirical data. *AIDS Behav*. 2018;22(12):3795-3806.
5. Nyblade LC. Measuring HIV stigma: existing knowledge and gaps. *Psychol Health Med*. 2006;11(3):335-345.
6. Chambers LA, Rueda S, Baker DN, et al. Stigma, HIV and health: a qualitative synthesis. *BMC Public Health*. 2015;15:848-848.
7. Rueda S, Mitra S, Chen S, et al. Examining the associations between HIV-related stigma and health outcomes in people living with HIV/AIDS: a series of meta-analyses. *BMJ Open*. 2016;6(7):e011453.
8. Kane JC, Elafros MA, Murray SM, et al. A scoping review of health-related stigma outcomes for high-burden diseases in low- and middle-income countries. *BMC Med*. 2019;17(1):17.
9. Arias-Colmenero T, Pérez-Morente Má, Ramos-Morcillo AJ, Capilla-Díaz C, Ruaza-Martínez M, Hueso-Montoro C. Experiences and attitudes of people with HIV/AIDS: a systematic review of qualitative studies. *Int J Environ Res Public Health*. 2020;17(2):639.
10. Pantelic M, Shenderovich Y, Cluver L, Boyes M. Predictors of internalised HIV-related stigma: a systematic review of studies in sub-Saharan Africa. *Health Psychol Rev*. 2015;9(4):469-490.
11. UNAIDS. Global HIV and AIDS statistics. UNAIDS; 2020. Accessed May 7, 2021. https://www.unaids.org/en/resources/fact-sheet
12. UNAIDS. Global AIDS Monitoring 2018, UNAIDS 2018 estimates and UNICEF Global Databases of nationally representative population based surveys 2010–2017. UNAIDS; 2018.
13. Ng’ eno B, Mwangi A, Ng’ ang’a L, et al. Burden of HIV infection among children aged 18 months to 14 years in Kenya: results from a nationally representative population-based cross-sectional survey. *J Acquir Immune Defic Syndr*. 2014;66(Suppl 1):S82-S88.
14. Slogrove AL, Sohn AH. The global epidemiology of adolescents living with HIV: time for more granular data to improve adolescent health outcomes. *Curr Opin HIV AIDS*. 2018;13(3):170-178.
15. Casey BJ, Jones RM, Hare TA. The adolescent brain. *Ann N Y Acad Sci*. 2008;1124:111-126.
16. Choudhury S, Blakemore S-J, Charman T. Social cognitive development during adolescence. *Soc Cogn Affect Neurosci*. 2006;1(3):165-174.
17. Suris JC, Michaud PA, Viner R. The adolescent with a chronic condition. Part I: developmental issues. *Arch Dis Child*. 2004;89(10):938-942.

18. Fleary SA, Joseph P, Pappagianopoulos JE. Adolescent health literacy and health behaviors: a systematic review. *J Adolesc*. 2018;62:116-127.

19. Kirk S, Hinton D. “I’m not what I used to be”: a qualitative study exploring how young people experience being diagnosed with a chronic illness. *Child Care Health Dev*. 2019;45(2):216-226.

20. Holmes JG. Interpersonal expectations as the building blocks of social cognition: an interdependence theory perspective. *Pers Relatsh*. 2002;9(1):1-26.

21. Turan B, Budhwani H, Fazeli PL, et al. How does stigma affect people living with HIV? The mediating roles of internalized and anticipated HIV stigma in the effects of perceived community stigma on health and psychosocial outcomes. *AIDS Behav*. 2017;21(1):283-291.

22. Sayles JN, Wong MD, Kinsler JJ, Martins D, Cunningham WE. The association of stigma with self-reported access to medical care and antiretroviral therapy adherence in persons living with HIV/AIDS. *J Gen Intern Med*. 2009;24(10):1101-1108.

23. Corrigan KL, Knettel BA, Ho N, et al. Improving access to cancer care in the HIV population: qualitative research to identify barriers to care. *Health Equity*. 2020;4(1):468-475.

24. Gesesew HA, Tesfay Gebremedhin A, Demissie TD, Kerie MW, Sudhakar M, Mwanri L. Significant association between perceived HIV related stigma and late presentation for HIV/AIDS care in low and middle-income countries: a systematic review and meta-analysis. *PLoS One*. 2017;12(3):e0173928.

25. Katz IT, Ryu AE, Onuegbu AG, et al. Impact of HIV-related stigma on treatment adherence: systematic review and meta-synthesis. *J Int AIDS Soc*. 2013;16(3 Suppl 2):18640-18640.

26. Sweeney SM, Vanable PA. The Association of HIV-Related stigma to HIV medication adherence: a systematic review and synthesis of the literature. *AIDS Behav*. 2016;20(1):29-50.

27. Saki M, Mohammad Khan Kermanshahi S, Mohammadi E, Mohraz M. Perception of patients with HIV/AIDS from stigma and discrimination. *Iran Red Crescent Med J*. 2015;17(6):e23638.

28. Vreeman RC, Scanlon ML, Inui TS, et al. ‘Why did you not tell me?’ perspectives of caregivers and children on the social environment surrounding child HIV disclosure in Kenya. *AIDS*. 2015;29(Suppl 1):S47-S55.

29. Vreeman RC, Gramelspacher AM, Gisore PO, Scanlon ML, Nyandiko WM. Disclosure of HIV status to children in resource-limited settings: a systematic review. *J Int AIDS Soc*. 2013;16(1):18466.

30. Vreeman RC, Scanlon ML, Marete I, et al. Characteristics of HIV-infected adolescents enrolled in a disclosure intervention trial in western Kenya. *AIDS Care*. 2015;27:6-17.

31. Turissini ML, Nyandiko WM, Ayaya SO, et al. The prevalence of disclosure of HIV status to HIV-infected children in western Kenya. *J Pediatric Infect Dis Soc*. 2013;2(2):136-143.

32. Montalto GJ, Sawe FK, Miruka A, et al. Diagnosis disclosure to adolescents living with HIV in rural Kenya improves antiretroviral therapy adherence and immunologic outcomes: a retrospective cohort study. *PLoS One*. 2017;12(10):e0183180.

33. Wrubel J, Moskowitz JT, Richards TA, Prakke H, Acree M, Folkman S. Pediatric adherence: perspectives of mothers of children with HIV. *Soc Sci Med*. 2005;61(11):2423-2433.

34. Haberer J, Mellins C. Pediatric adherence to HIV antiretroviral therapy. *Curr HIV/AIDS Rep*. 2009;6(4):194-200.

35. Gross R, Bandason T, Langhaug L, Mujuru H, Lowenthal E, Ferrand R. Factors associated with self-reported adherence among adolescents on antiretroviral therapy in Zimbabwe. *AIDS Care*. 2015;27(3):322-326.

36. Nabuкеera-Barungi N, Kalyesubula M, Kekeitiiwa A, Byakika-Tusii J, Musoke P. Adherence to antiretroviral therapy in children attending Mulago Hospital, Kampala. *Ann Trop Paediatr*. 2007;27(2):123-131.

37. Vreeman RC, Scanlon ML, Tu W, et al. Validation of an HIV/AIDS stigma measure for children living with HIV and their families. *J Int Assoc Providers AIDS Care*. 2019;18:2325958219880570.

38. McAteer CI, Truong NT, Aluoch J, et al. A systematic review of measures of HIV/AIDS stigma in paediatric HIV-infected and HIV-affected populations. *J Int AIDS Soc*. 2016;19(1):21204.

39. McHenry MS, Nyandiko WM, Scanlon ML, et al. HIV stigma: perspectives from Kenyan child caregivers and adolescents living with HIV. *J Int Assoc Providers AIDS Care*. 2017;16(3):215-225.

40. AMPATH. AMPATH Kenya HIV/AIDS. Published 2020. Accessed February 4, 2021. https://www.ampath-kenya.org/hiv-aids

41. Inui TS, Nyandiko WM, Kimaiyo SN, et al. AMPATH: living proof that no one has to die from HIV. *J Gen Intern Med*. 2007;22(12):1745-1750.

42. Einterz RM, Kimaiyo S, Meissner CA. Conceptual priming and context reinstatement: a test of direct and indirect interview techniques. *Law Hum Behav*. 2019;43(2):131-143.

43. Herring DR, White KR, Jabeen LN, et al. On the automatic presentation for HIV/AIDS care in low and middle-income countries: a systematic review and meta-analysis. *PLoS One*. 2013;7(6):e33259.

44. Dianiska RE, Swanner JK, Brimbal L, Meissner CA. Conceptual priming and context reinstatement: a test of direct and indirect interview techniques. *Law Hum Behav*. 2019;43(2):131-143.

45. Weinmann E, Chen Q, McAdams M, Yi J, Hepler J, Albarracin D. From primed concepts to action: a meta-analysis of the behavioral effects of incidentally presented words. *Psychol Bull*. 2016;142(5):472-497.
48. Chen X, Liu B, Lin S. Is accessing of words affected by affective valence only? A discrete emotion view on the emotional congruency effect. *Front Psychol*. 2016;7:916-916.

49. Mahajan AP, Sayles JN, Patel VA, et al. Stigma in the HIV/AIDS epidemic: a review of the literature and recommendations for the way forward. *AIDS*. 2008;22(Suppl 2):S67-S79.

50. Ogden J, Nyblade L. *Common at Its Core: HIV-Related Stigma Across Contexts*. ICRW; 2005.

51. Chory A, Nyandiko W, Martin R, et al. HIV-related knowledge, attitudes, behaviors and experiences of Kenyan adolescents living with HIV revealed in WhatsApp group chats. *J Int Assoc Providers AIDS Care*. 2021;20:2325958221999579.

52. Nachega JB, Morroni C, Zuniga JM, et al. HIV-related stigma, isolation, discrimination, and serostatus disclosure: A global survey of 2035 HIV-infected adults. *J Int Assoc Physicians AIDS Care*. 2012;11(3):172-178.

53. Chory A, Nyandiko W, Beigon W, et al. Perspectives of education sector stakeholders on a teacher training module to reduce HIV/AIDS stigma in western Kenya. *BMC Public Health*. 2021;21:1281.