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Identifying Perceived Barriers along the HIV Care Continuum: Findings from Providers, Peer Educators, and Observations of Provider–Patient Interactions in Ethiopia

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Abstract

Increasing the proportion of HIV-positive individuals who link promptly to and are retained in care remains challenging in sub- Saharan Africa, but little evidence is available from the provider perspective. In 4 Ethiopian health facilities, we (1) interviewed providers and peer educators about their perceptions of service delivery- and patient-level barriers and (2) observed provider–patient interactions to characterize content and interpersonal aspects of counseling. In interviews, providers and peer educators demonstrated empathy and identified nonacceptance of HIV status, anticipated stigma from unintended disclosure, and fear of antiretroviral therapy as patient barriers, and brusque counseling and insufficient counseling at provider-initiated testing sites as service delivery-related. However, observations from the same clinics showed that providers often failed to elicit patients' barriers to retention, making it unlikely these would be addressed during counseling. Training is needed to improve interpersonal aspects of counseling and ensure providers elicit and address barriers to HIV care experienced by patients.

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Keywords

HIV/AIDS; qualitative methods; Ethiopia; barriers to care; provider perspectives; observation of provider–patient interactions

Background

Increasing the proportion of HIV-positive individuals who link promptly to and are retained in care following HIV diagnosis remains a key challenge to reducing HIV-related morbidity and mortality in sub-Saharan Africa.[1–3] Although several qualitative studies have investigated barriers to care from the patient perspective,[4–11] few studies have focused on health care providers.[12,13] To our knowledge, no studies have compared barriers perceived by providers and peer educators, the HIV-positive lay staff who deliver HIV counseling services, outreach, and other client support in clinics across sub-Saharan Africa. While providers may have gained insights through interactions with many patients and the health care system, peer educators' perspectives may additionally be informed by their experiences as patients. While other studies have included observations of provider– patient interactions in HIV care settings,[14–17] these studies have focused on treatment outcomes and procedural changes, without comparing different types of provider–patient interactions or triangulating findings with provider and peer educators' perceptions.

In 4 Ethiopian health facilities, we (1) interviewed providers and peer educators about their perceptions of service delivery-and patient-level barriers and (2) observed provider–patient interactions to characterize content and interpersonal aspects of counseling. Our objective was to inform a future study on late antiretroviral therapy (ART) initiation at the same clinics with a better understanding of providers' and peer educators' perceptions of barriers that patients face as they navigate the HIV care continuum and to describe what happens in actual counseling practice at different points along that continuum in Ethiopia.

Methods

The study was conducted in clinics providing HIV testing, care, and treatment services in 4 secondary-level hospitals in the Oromia State of Ethiopia that receive technical support from the International Center for AIDS Care and Treatment Programs (ICAP) at Columbia University, through funding from the US President's Emergency Plan for AIDS Relief. The clinics were selected as part of a larger study on late ART initiation and had similar patient load, services offered, and staffing, though the rates of late ART initiation were different. Data collectors conducted interviews and observations under supervision of one of the coauthors. All data collectors were trained on in-depth interviewing techniques and observing provider– patient interactions. The training included mock interviews and observations to improve interviewing skills, increase comprehension of the observation checklist (described subsequently), and develop concordance among study staff while completing the observation checklist. Ethical approval was obtained from institutional review boards and ethics committees of Columbia University Medical Center, Hunter College at the City University of New York, and the Oromia Regional Health Bureau in Ethiopia.

Provider In-Depth Interviews: Participants and Procedures

At each site, 1 HIV testing and counseling (HTC) counselor, 1 physician/ health officer, 1 nurse, and 1 peer educator were interviewed (total of 16 participants across the 4 sites). All participants were aged 18 years or older, had worked at the clinic for 6 months or longer, and provided verbal consent. In cases where there were multiple staff members working in a job category (eg, nurses), the first provider or peer educator who was approached and consented was selected. To ensure provider and peer educator anonymity, identifying information was limited to job title, gender, and age range, which prevented comparing interviews and observations occurring with the same person. Providers and peer educators were also assured that information would not be shared with supervisors or coworkers. Using an open-ended interview guide, the data collectors asked providers and peer educators to describe perceived patient barriers and enablers to linkage, retention, and ART initiation. All interviews were digitally recorded, transcribed, and translated into English. Content analysis was conducted to identify themes, which were defined in a codebook. Three coauthors read the interviews and jointly coded a sample, discussed discrepancies, and revised the codebook. The first author did the final coding using Atlas TI (Version 7.1.4), after which the text for each major code was reviewed by coauthors to identify subthemes and examine commonalities and differences across events in the HIV care continuum.

Observation of Provider–Patient Interactions: Participants and Procedures

A total of 78 distinct provider–patient interactions were observed, including 14 posttest counseling sessions with patients who tested HIV positive, 16 initial HIV care clinic enrollment visits, 16 visits where patients received results from their first CD4 count (ART eligibility assessment), 16 follow-up visits with patients not yet eligible for ART, and 16 with ART-eligible patients receiving preparatory counseling. Observations and interviews were conducted concurrently. The number of visits per site was determined based on patient load and data collectors' capacity. Both providers and patients were aged 18 years or older and provided verbal consent. Providers were preconsented, and on the days that observations occurred, clinic staff identified patients receiving the desired services. For posttest counseling sessions, the data collectors attended sessions of all consenting patient participants, regardless of the test result, to ensure the data collectors' presence did not unintentionally disclose an HIV-positive test result to the participant or others. Patients were invited to participate and verbally consented while they waited to see the provider. All patients were assured that their participation would not affect the care they received at the health facility.

An observation checklist, adapted from prior work on family planning and HIV[18] to match national guidelines and training manuals for HIV services in Ethiopia, was used to document counseling content and practice in care and treatment and HIV posttest counseling sessions. The checklist included (1) items assessing cross-cutting interaction style (eg, whether the provider greeted the participant, seemed rushed, elicited and/or answered questions); (2) items documenting the provision of recommended services (eg, TB screening and family planning); and (3) items documenting discussion of key elements of care (eg, linkage to care after diagnosis, disclosure, retention, and adherence counseling). Services and discussion items were coded as "not covered," "partially covered," or "extensively covered" (eg, the importance of cotrimoxazole adherence was considered partially covered if the provider said "taking medication every day keeps you healthy," and extensively covered if he or she explained that cotrimoxazole adherence prevents pneumonia and opportunistic infections). A separate checklist was developed for posttest counseling, which included the same cross-cutting interaction style issues noted above as well as items such as whether the counselor explained what an HIV-positive test meant, discussed the importance of linkage, or assessed emotional state. Completed checklists were double data entered into an SPSS database, and simple summary statistics (using SAS 9.3) were generated, focusing on items that complemented the themes emerging from the in-depth interviews. To avoid any unintended negative bias, items not recorded on the checklist were excluded from the denominator when calculating proportions of visits during which a given item was covered.

Results

In-Depth Interviews

Twelve of the 16 providers and peer educators completing in-depth interviews were women, and all were between the ages of 25 and 44. Additional characteristics are described in Table 1 and a summary of identified barriers is described in Table 2.

Patient-Related Factors

Acceptance of HIV status—All providers identified "acceptance" of one's HIV status as central to timely enrollment in care and subsequent retention. For individuals who had difficulty acknowledging their diagnoses, commonly mentioned reactions were shock, inability to comprehend, anger, and disbelief, and this was especially common if the patient had not initiated HIV testing.

> A client coming for other purpose like cough or diarrhea, then when he tests positive and he is told he has HIV in his blood, he denies it saying that "I have no HIV, it is cough or TB."—Doctor

The presence (or lack thereof) of physical symptoms was believed to be closely related to acceptance. As described by one doctor,

> Asymptomatic patients mostly don't accept their HIV status. They think they are fine. It needs a lot of counseling, whereas in case of symptomatic patients, acceptance of status is high.—Doctor

Similarly, a health officer explained that some patients mistakenly interpreted feeling healthy to mean they were HIV negative and did not need to attend clinic regularly.

> Most of our patients that disappear are pre-ART. I think the main reason they are very careless is because they assume they are healthy, thus they don't need anything.—Health officer

Use of religious "cures."—Three providers and 2 peer educators noted that many patients delayed linkage to or disengaged from care, while they sought a cure through prayer and use of Holy Water. One peer educator reported having done this himself, after experiencing side effects from taking ART.

> I consulted my Father at confession and he told me to stop taking the drugs because God did not want me to take the drugs. I agreed and I stopped taking the pills … In the meantime I used to drink Holy Water.—Peer educator

This peer educator's experience also illustrated the influence of other persons in patients' networks, such as friends, relatives, or religious leaders who might discourage reliance on allopathic treatment.

Providers reported cautioning patients against seeking Holy Water without simultaneously using allopathic treatment, and one nurse noted that even if patients did not heed their advice and returned to the clinic only after becoming sick, "We will offer them a warm welcome and will not blame them for being lost, rather we focus on saving their life. … " Nevertheless, providers and peer educators reported that after disengaging from care, patients were often reluctant to return to the same provider after they developed symptoms of advanced HIV disease.

> They stay [at the Holy Water sanctum] to heal from the disease then after they become weak and very sick, they return to medical facilities … some they don't want to return to this facility because they don't want to see us because we told them this will happen if they don't continue their care.—Peer educator

Thus, patients' feeling of shame or guilt after using Holy Water or missing visits were believed to further delay return to medical care.

Fears about stigma and unintended disclosure—Despite asserting that community attitudes toward HIV had improved in the recent years, all providers and peer educators cited fear of stigma as a major patient-level barrier to linkage to care, retention in care, and ART initiation. They indicated that patients especially worried that taking medication would lead to inadvertent disclosure of HIV status and subsequent stigmatization.

> Before they start ART, they assume that their HIV status is not known, but, after they start treatment … and the drug is seen in their hands … they perceive that "my HIV status is known."— Nurse

Providers and peer educators hypothesized that worries about potential stigma and unintended disclosure resulted in many patients seeking care outside their community, thus introducing another potential barrier associated with travel.

> Even though they'll tell you they cannot come back due to the distance problem, but it is mainly related to disclosure. They fear someone will see them getting the treatment nearby and they assume he/she will disclose their secret to other people. — Physician

Providers and peer educators seemed to understand that while patients' preference to receive care in other communities reduced the risk of unintended disclosure, it also increased the financial and time commitment necessary for retention in care.

Fears about consequences of disclosure—In addition to sharing patients' fear of unintended disclosure and anticipated stigma, many providers and peer educators discussed the difficulties patients faced in disclosing their HIV status and how this affected their care-seeking behavior. In all 4 study clinics, disclosure to at least 1 individual prior to ART initiation is highly encouraged, though not required. Nevertheless, providers believed that disclosure, particularly to partners, was a barrier to pre-ART retention because patients, especially women, feared they would be blamed for bringing HIV into the dyad and feared divorce. To help them "disclose" some providers reported that they made arrangements for the HIV-positive partner to bring the other partner to the clinic for couples counseling so that they could be "newly diagnosed" together.

> They say … "I cannot do that because I will lose my marriage." Thus, we have our own system to encourage them to bring their partners. We [tell] them to come with their partner for testing without [disclosing]. We will keep their secret and we will welcome them as new clients.—Nurse

Thus, providers attempted to provide an easier solution to partner disclosure, but doing so was of course dependent on the patient and provider discussing disclosure.

Fears about taking ART—Four peer educators and 6 doctors and nurses mentioned patient concerns about the side effects from ART, including, in some cases, the belief that ART hastened death. The overwhelming consensus was that these fears primarily delayed initiation of ART.

> They say, "I disappeared when you told me to start the drugs because I heard that people are dying when they start taking the drugs."—Nurse

However, one nurse indicated that these worries also posed a barrier to linkage and pre-ART retention.

> They assume that when they come to ART clinic they will immediately start ART. […]They highly fear the ART drug, especially when they come for the first time and until they start and experience it.—Nurse

Providers and peer educators reported that central to patients' concerns about the side effects of ART were worries about inadequate food, with many patients reporting that they needed certain foods before they could start ART.

> Some people [are] concerned about their diet when they initiate ARV drugs. "What am I going to eat? I don't have enough to buy adequate food so the drugs will make things worse than before."— Peer educator

Providers' and peer educators' responses highlighted that many patients wanted to wait until they had adequate food before starting ART, which was due to inadequate understanding of ART. Concerns about initiating ART, whether due to worries about stigma, nutrition, or other factors, were often expressed as patients' "readiness" by both providers and peer educators. Providers and peer educators noted that patients reported needing more time to prepare themselves, psychologically and logistically, which often delayed ART initiation.

Service Delivery–Related Factors

Point of HIV diagnosis—There was a strong belief among providers and peer educators that patients diagnosed in provider-initiated testing and counseling (PITC) were less prepared for their HIV diagnosis and, ultimately, more likely to initiate ART with advanced HIV disease. Additionally, providers and peer educators believed that counseling following diagnosis was insufficient in these settings. As one nurse stated,

> When a person comes from VCT [voluntary counseling and testing], he/she might have suspicion about his/herself. When patients come from PITC, they came mainly for treatment and when told [they are] positive, they face big disturbances. —Nurse

Beyond acceptance of HIV diagnosis, providers and peer educators felt that patients diagnosed in PITC settings had more suboptimal care outcomes than those diagnosed in VCT settings, which was attributed to the quality of posttest counseling.

> Loss to follow-up, refusal to start care and treatment … are mostly seen in patients referred from [outpatient departments]. This is because of the lack of readiness and they don’t get adequate and proper counseling.—Nurse

Other providers and peer educators mentioned that the limited time devoted to posttest counseling in PITC settings seemed inadequate to address reluctance to enroll in care or help patients accept their diagnosis.

> When PITC is done for the patients and if they are positive, it is difficult for them to accept the result because they didn’t come intentionally for the test … and until they accept it and cool down, it is difficult for them. Some of them are lost after the test, but they come back when they get sick.—Nurse

Quality of counseling—Relatedly, all providers and peer educators emphasized the importance of counseling method, including the need to provide explanations in a way that patients could readily comprehend and to continuously assess patient comprehension. A few providers reported limiting the amount of information they provided at any one time, in order to avoid overwhelming the patient. Approximately half of the providers specifically mentioned that poor counseling posed a barrier to patient care, primarily to retention and timely ART initiation.

> There are two kinds of staff here. There are staff who are giving proper services and there are others who simply provide the [minimum] services. The difference for HIV patients is they are easily affected, internally harmed or hurt, and they need to be treated [carefully] and reassured.—Peer educator

For most providers and peer educators, high-quality counseling or conversely, insufficient or inadequate counseling, was acknowledged as playing a critical role in the patient’s HIV care experience. Every provider and peer educator mentioned workload challenges and reported feeling overwhelmed and psychologically stressed, all of which could affect the quality of counseling.

Role of peer educators—Providers noted the important role peer educators play in the patient care experience and in ensuring high levels of patient trust.

> Even the patients believe [peer educators] more than us, because they have the same status.—Nurse

Peer educators felt they were performing an important role in the clinic and described instances where patients preferred to discuss issues related to disclosure and living with HIV with peer educators over providers.

> Since we are the same as patients, they openly tell us their problem. They breathe their problem to us without fear.—Peer educator

Peer educators suggested that this comfort and ease meant that patients were more likely to share intimate concerns with peer educators because patients were less worried about being scolded or reprimanded.

> If the care provider do not handle and communicate politely with the patient, the patient may not tell him truly his problem … however, [peer educators] couldn't instruct the doctors because of the skill they have!—Peer educator

Peer educators understood these interpersonal dynamics and were aware of the importance of counseling style but, at the same time, expressed some of the challenges to fulfill their role at the clinic, due to their limited expertise and training.

> There are many clients whose knowledge is going to be more than we know; there are many knowledgeable people who have good educational status and awareness though they feared to talk, so when we stand in front of them and to teach them, we should have adequate and good knowledge; we should always be refreshed with adequate information.—Peer educator

Every peer educator expressed a desire for more frequent refresher training and a more equitable working environment. They also spoke of other workplace challenges, and feeling like they were not valued staff within the clinic, which limited their ability to advocate on behalf of their patients.

> We don't have any contractual agreement like other staff; we are just considered volunteers.—Peer educator

Peer educators felt that gaps in their knowledge and their role in the clinic limited their ability to be the most effective educators.

Observation of Provider–Patient Interactions

Of 78 provider–patient interactions observed, all involved nurses or posttest counselors, 57 (73%) involved female patients, and 61 (78%) involved female providers (Table 3). Across all observations (Table 4), the median interaction time was 13 minutes (range: 1–40): posttest counseling session (median: 9 minutes; range: 2–28), enrollment visit (median: 16 minutes; range: 3–29), the pre-ART monitoring visit (median: 6 minutes; range: 1–15), the first CD4 count results given/ART eligibility session (median: 13 minutes; range: 5–40), and the ART preparatory session typically lasted the longest (median: 17 minutes; range: 3–36).

Among ART eligibility sessions where the patient was not eligible for ART, the median interaction time was 12 minutes (range: 5–22 minutes), and among those in which the patient was eligible for ART, the median interaction time was 15 minutes (range: 5–40).

Regarding counseling approach, observers noted that providers appeared unrushed in all or nearly all of the posttest counseling sessions (100%), enrollment visits (75%), first ART eligibility assessments (94%), and ART preparatory sessions (88%) observed (Table 4). In 47% of the pre-ART monitoring visits, however, providers appeared rushed. In the majority of interactions, providers solicited questions from participants (range: posttest counseling, 71%; enrollment visit and ART preparatory session, 81%) and also answered at least 1 question verbalized by patients (range: pre-ART monitoring visit, 87%; ART eligibility assessment, 94%). However, data collectors judged that providers missed opportunities to pick up on patient concerns in almost 25% of the interactions. This occurred most often during enrollment visits (38%) and least often during posttest counseling sessions (14%). Providers regularly asked how much patients understood (range: pre-ART monitoring, 60%; enrollment visit, 81%) but were less consistent in actually probing to assess patient comprehension (range: pre-ART monitoring visit, 33%; enrollment visit, 80%). Overall, enrollment and ART preparatory sessions appeared most thorough, whereas the pre- ART monitoring visits were consistently rated as brief, rushed, and cursory.

In posttest counseling sessions, disclosure was discussed in 64% of interactions, but barriers to disclosure were assessed in only 36% of interactions. Disclosure discussions most frequently occurred during the enrollment visit, including discussing the importance of disclosure (81%), querying if a patient had disclosed to someone (81%), providing disclosure counseling (63%), and assessing barriers to disclosure (26%). After the enrollment visit, the proportion of interactions that included any mention of disclosure declined (range: pre-ART monitoring, 32%; first ART eligibility assessment, 75%).

Explanation of the pre-ART monitoring process (partial or extensive) was observed in fewer than half of the visits for enrollment (47%), and pre-ART monitoring visits (38%), though it was notably higher during the ART eligibility assessment (81%). Explaining the importance of pre-ART retention in care was slightly more frequent (range: 62%–73%). Providers explained appointment adherence in over 85% of the observations (range: 75%–100%). Although the majority of interactions included an explanation of retention and why it is important, actual assessment of patient-specific barriers to retention was relatively modest, ranging from 42% in posttest counseling sessions to 69% in both enrollment visits and ART eligibility assessments.

In the interactions we observed, providers asked about patients' emotional state in 100% of posttest counseling and enrollment visits, in 75% of ART eligibility assessments and pre-ART monitoring visits, and in 82% of ART preparatory visits. Stigma and discrimination were assessed in 39% of enrollment visits, followed by only 6% of ART eligibility assessments and pre-ART monitoring visits and 12% of ART preparatory sessions.

Discussion

In this study, we used 2 approaches to gain insights into reasons for gaps along the HIV care continuum: through interviews we identified providers' and peer educators' perceptions of barriers that patients face in achieving key milestones along the care continuum and through observation of provider–patient interactions we assessed typical practice.

In this study, providers and peer educators reported that patients who lacked symptoms of HIV disease were more likely to struggle to accept their HIV status or to have a lower perceived need for care. This finding has been reported in other studies, although the link between being asymptomatic and nonacceptance was less explicit.[19–23] Providers and peer educators highlighted that lower perceived need also translated into patients exploring curative solutions outside of Western medicine, a barrier to retention in care and adherence to ART also identified by others.[7,13,24] Therefore, identifying approaches to counseling asymptomatic individuals who may not recognize the importance of enrolling and staying in care is key to ensuring that these individuals initiate ART as soon as they are eligible.

Notably, providers and peer educators also identified service delivery–related factors, such as diagnosis through PITC and the quality of posttest counseling[25,26] as contributing to nonretention in care. While the PITC program was implemented to increase the number of HIV-positive persons diagnosed and linked to care, our data, as well as that from at least one other study in Ethiopia, raise questions about the quality of posttest counseling during PITC.[13] Therefore, approaches to link individuals who were not expecting their diagnosis also need to be developed. Failure to link to and stay in care due to shock or not accepting one's status, or feeling healthy may become more common as testing expands, and, therefore, addressing the needs of people who are identified HIV positive outside of VCT venues is critical for improving linkage and retention in HIV care.

The providers and peer educators we interviewed empathized with patients and were sensitive to the barriers they faced. However, observations from the same clinics showed that providers did not always ask about barriers during their interactions with patients. In particular, relatively few providers conducted disclosure counseling, assessed barriers to retention, or discussed patient concerns about anticipated stigma or unintended disclosure. The most cursory visit appeared to be the pre-ART monitoring visit, in terms of both the length of the visit and the topics covered, which may contribute to poor retention during the pre-ART period and subsequent late ART initiation.[9,27]

Overall, we observed that counseling was proscriptive and directive focused on imparting information required in national guidelines rather than on tailoring it to the needs of individuals. Research has shown that motivational interviewing or other client-centered strategies are more effective than didactic counseling.[28,29] Counseling style may in part be a reflection of staff caseload, a problem throughout sub-Saharan Africa,[30,31] given that our in-depth interviews showed that providers and peer educators were aware of the challenges patients face navigating the HIV care continuum. Providers are forced to triage and balance the time spent with patients versus the time others spend waiting to see the provider. High-quality, comprehensive counseling may help patients address some of these barriers providers and peer educators identified.

This was a real-world study that triangulated multiple methods. To our knowledge, it is the first to include observations from a range of visits across the HIV care continuum juxtaposed with providers' and peer educators' perceptions of barriers that patients face in navigating the HIV care continuum. However, our study has several limitations. First, while we elicited providers' and peer educators' perspectives, this was not complemented by examination of patients' perspectives. Second, we did not collect information on the patients' circumstances during observations, so we were unable to discern whether items not discussed during provider–patient interactions, such as disclosure, were simply irrelevant (ie, the patient had already disclosed). Third, although not by design, all observations occurred with posttest counselors or nurses—only 2 of the 4 types of staff interviewed. Furthermore, due to logistic considerations, we were unable to observe posttest counseling sessions in PITC settings or peer educator counseling sessions, and we could not link observations to rates of linkage, retention, and timely ART initiation in these clinics. There may also have been unanticipated selection bias from the study staff who identified potential patients for observat0069on. Finally, despite hiring independent researchers to conduct interviews and reassuring participants that individual findings would not be shared with in-country staff, there is the possibility of respondent bias since ICAP conducted the study and also provides technical support to the clinics.

In conclusion, our study echoes previous findings concerning the barriers patients face along the HIV care continuum[4–7,10–13,32–34] and expands on those findings by highlighting the complex and often interrelated barriers to linkage in care, retention, and timely ART initiation from the perspective of providers and peer educators. Providers and peer educators recognized the value of counseling for helping patients traverse the HIV care continuum but suggested that both at posttest and after enrollment in care it was often insufficient. Additional training and interventions are needed to help providers and peer educators address these barriers through counseling. This will be especially important as the number of asymptomatic patients who are able to initiate ART increases due to revisions in treatment guidelines and expanded testing programs.

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Table 1

In-Depth Interview Respondent Characteristics.

	Doctor	Nurse	HTC Counselor	Peer Educator
Number interviewed	4	4	4	4
Sex				
Male	3	0	2	1
Female	1	4	2	3
Age				
25–34	4	2	3	2
35–44	0	2	1	2
Highest education level				
Primary/secondary school	0	0	0	3
Vocational school	0	0	0	1
University	1	0	2	0
Nursing/medical school	3	4	2	0
Time working at clinic				
6 months-1 year	4	0	0	0
1–5 years	0	2	2	4
>5 years	0	2	2	0

Abbreviation: HTC, HIV testing and counseling.

Table 2

Barriers by Level.

Level	Barrier
Patient-related	• Acceptance of HIV status • Use of religious “cures” • Fears about stigma and unintended disclosure • Fears about consequences of disclosure
Service delivery-related	• Quality of counseling • Point of HIV diagnosis • Role of peer educators

Table 3

Provider–Patient Interaction Observation Characteristics.

	Posttest Counseling Session	Enrollment Visit	ART Eligibility Assessment	Pre-ART Monitoring Visit	ART Preparatory Session
Number observed	14	16	16	16	16
Patient sex					
Male	5	3	6	1	6
Female	9	13	10	15	10
Provider sex					
Male	7	2	4	1	3
Female	7	14	12	15	13
Provider type					
HTC counselor	10	0	0	0	0
Nurse	4	16	16	16	16

Abbreviations: ART, antiretroviral therapy; HTC, HIV testing and counseling.

Table 4

Key Findings from Observation of Provider–Patient Interactions and Posttest Counseling.[a]

		Posttest Counseling Session (n = 14)		Enrollment Visit (n = 16)		ART Eligibility Assessment (n = 16)		Pre-ART Monitoring Visit (n = 16)		ART Preparatory Session (n = 16)	
		Median	**Range**	**Median**	**Range**	**Median**	**Range**	**Median**	**Range**	**Median**	**IQR**
Duration, minutes		9	2–28	16	3–29	13	5–40	6	1–15	17	3–36
		n	%	n	%	n	%	n	%	n	%
Provider type	Counselor	10	71%	1	6%	0	0%	0	0%	1	6%
	Nurse	4	29%	15	94%	16	100%	16	100%	15	94%
Overarching											
Appear rushed	No	14	100%	12	75%	15	94%	8	53%	14	88%
	Yes	–	0%	4	25%	1	6%	7	47%	2	12%
Ask if patient has questions	No	4	29%	3	19%	4	27%	4	27%	3	19%
	Yes	10	71%	13	81%	11	73%	11	73%	13	81%
Answer verbalized questions or address concerns	No	1	7%	1	7%	1	6%	2	13%	1	8%
	Yes	13	93%	14	93%	15	94%	13	87%	15	92%
Missed opportunity to pick up on client concerns	No (did not miss)	12	86%	10	63%	13	81%	11	73%	12	80%
	Yes (missed)	2	14%	6	38%	3	19%	4	27%	3	20%
Ask how much client understood	No	3	21%	3	19%	4	25%	6	40%	5	31%
	Yes	11	79%	13	81%	12	75%	9	60%	10	63%
Assess how much client understood	No	8	57%	3	20%	7	44%	10	67%	8	50%
	Yes	6	43%	12	80%	9	56%	5	33%	8	50%
Adherence											
Describe adherence to regimen	No			9	60%	7	50%	11	79%	4	25%
	Yes			4	27%	6	43%	3	21%	5	31%
	Yes extensive			2	13%	1	7%	–	0%	7	44%
Importance of medication adherence	No			5	31%	4	25%	9	60%	1	6%
	Yes			8	50%	8	50%	4	27%	4	25%
	Yes extensive			3	19%	4	25%	2	13%	11	69%
Explain what happens at eligibility	No			3	21%	–	0%	12	75%	6	43%

		Posttest Counseling Session (n = 14)		Enrollment Visit (n = 16)		ART Eligibility Assessment (n = 16)		Pre-ART Monitoring Visit (n = 16)		ART Preparatory Session (n = 16)	
		Median	Range	Median	Range	Median	Range	Median	Range	Median	IQR
	Yes			8	57%	7	50%	3	19%	1	7%
	Yes extensive			3	21%	7	50%	1	6%	7	50%
Retention											
Explain pre-ART monitoring	No			8	53%	2	18%	10	63%	7	88%
	Yes			4	27%	4	36%	6	38%	1	13%
	Yes extensive			3	20%	5	45%	–	0%	–	0%
Explain importance of pre-ART engagement	No			4	27%	3	27%	6	38%	3	43%
	Yes			6	40%	3	27%	9	56%	4	57%
	Yes extensive			5	33%	6	45%	1	6%	–	0%
Appointment adherence	No			2	13%	–	0%	4	25%	1	9%
	Yes			7	44%	9	56%	8	50%	9	56%
	Yes extensive			7	44%	7	44%	4	25%	6	38%
Assess barriers to care	No	7	58%	5	31%	5	31%	8	50%	7	44%
	Yes	2	17%	6	38%	7	44%	8	50%	4	25%
	Yes extensive	3	25%	5	31%	4	25%	–	0%	5	31%
Disclosure											
Discuss disclosing HIV status	No	5	36%								
	Yes	3	21%								
	Yes extensive	6	43%								
Ask about disclosure	No			3	19%	4	25%	10	63%	7	44%
	Yes			9	56%	8	50%	4	25%	6	38%
	Yes extensive			4	25%	4	25%	2	13%	3	19%
Discuss importance of disclosure	No			3	19%	7	44%	14	88%	10	63%
	Yes			8	50%	7	44%	2	13%	3	19%
	Yes extensive			5	31%	2	13%	–	0%	3	19%
Disclosure counseling	No			6	38%	10	63%	13	87%	11	68%
	Yes			8	50%	5	31%	2	13%	3	19%
	Yes extensive			2	13%	1	6%	–	0%	2	13%
Assess barriers to disclosure	No	10	71%	12	75%	14	88%	13	87%	12	80%

		Posttest Counseling Session (n = 14)		Enrollment Visit (n = 16)		ART Eligibility Assessment (n = 16)		Pre-ART Monitoring Visit (n = 16)		ART Preparatory Session (n = 16)	
		Median	**Range**	**Median**	**Range**	**Median**	**Range**	**Median**	**Range**	**Median**	**IQR**
	Yes	2	14%	2	13%	2	13%	2	13%	2	13%
	Yes extensive	2	14%	2	13%	–	0%	–	0%	1	7%
Other issues											
Explain how ART helps HIV-positive person	No	3	21%	4	27%	1	7%	12	80%	3	19%
	Yes	5	36%	4	27%	7	47%	3	20%	5	31%
	Yes extensive	6	43%	7	47%	7	47%	–	0%	8	50%
Assess how patient is feeling emotionally	No	–	0%	–	0%	4	25%	4	25%	3	19%
	Yes	11	69%	11	69%	9	56%	12	75%	10	63%
	Yes extensive	5	31%	5	31%	3	19%	–	0%	3	19%
Assess whether patient experienced stigma or discrimination	No			8	62%	15	94%	15	94%	14	88%
	Yes			4	31%	1	6%	1	6%	1	6%
	Yes extensive			1	8%	–	0%	–	0%	1	6%

Abbreviations: ART, antiretroviral therapy; IQR, interquartile range.

[a] Instances where an occurrence was not recorded have not been included in the denominator for percentages.