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Discussion of Sexual Risk Behavior in HIV Care is Infrequent and Appears Ineffectual: A Mixed Methods Study

M. Barton Laws,

Public Health Program, Warren Alpert School of Medicine, Brown University, G-S121-7,
Providence, RI 02912, USA

Ylisabyth S. Bradshaw,

Tufts University School of Medicine, Boston, MA, USA

Steven A. Safren,

Harvard Medical School, Boston, MA, USA

Mary Catherine Beach,

Johns Hopkins University School of Medicine, Baltimore, MD, USA

Yoojin Lee,

Tufts Medical Center, Boston, MA, USA

William Rogers, and

Tufts Medical Center, Boston, MA, USA

Ira B. Wilson

Public Health Program, Warren Alpert School of Medicine, Brown University, Providence, RI,
USA

M. Barton Laws: Michael_Barton_Laws@brown.edu

Abstract

Consensus guidelines in HIV care call for clinicians to provide a brief sexual risk behavioral intervention in each visit. Studies based on participant reports find this occurs infrequently, but studies based on direct observation of clinical encounters are lacking. We conducted a mixed method study that used audio recordings of 116 routine outpatient visits by 58 different patients with HIV, in five different practice sites. Transcripts of the visits were coded and analyzed using a quantitative system. In addition, we conducted a qualitative analysis of the dialogue segments in which sexual risk behaviors arose as a topic. Discussion of sexual risk behavior occurred in 10 visits, and was generally quite brief. Two visits featured substantial counseling about sexual risk reduction; two others included substantial discussion which was not evidently directed at the patient's changing behavior. Cues suggesting a need or opportunity for such discussion that physicians did not follow up on occurred in seven additional visits. Interactions about sexual risk had less patient engagement than interactions about other health behaviors. Physicians seldom provide sexual risk reduction counseling in HIV care, even where specific indications are present.

Keywords

Counseling; Sexual risk behavior; STIs; Physician–patient communication; Medical care

Introduction

During the first two decades of the HIV epidemic in the United States, prevention efforts focused mainly on people who were presumed HIV negative [1]. Prevention efforts in recent years however have been focused on HIV infected patients. Because of antiretroviral therapy (ART) many patients with HIV can expect to be healthy and functional for many years. For these individuals, managing sexual and romantic relationships, while avoiding re-infection and transmission, is a significant challenge. Awareness grew that for HIV infected people, consistent condom use over the long term is difficult and complicated [2–5]. In 2003, the U.S. Centers for Disease Control and Prevention (CDC), Health Resources and Services Administration, National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America jointly developed recommendations to incorporate “HIV prevention into the medical care of persons living with HIV” [6]. These include routinely screening for sexual risk during medical encounters with HIV infected people, recognizing that “risk is not static,” but can change from one encounter to another. They also include routinely asking about symptoms of Sexually Transmitted Infections (STIs) and providing laboratory screening where indicated. Finally, physicians were urged to include “a brief behavioral intervention in each clinic visit” so that patients would adopt safer practices over time.

These recommendations do not advocate any specific form of behavioral intervention but do list several issues which the panelists believe physicians can effectively address, and others that can be addressed through referral. They suggest some questions for screening. They do not specifically define sexual risk behavior but provide a relative ranking of the risk of transmitting HIV and other STIs associated with various sexual acts. The implicit strategy is one of risk reduction, with consistent condom use a principal focus.

While there is a broad literature on sexual risk taking and on risk counseling by non-physicians, there has been little attention paid to risk counseling in primary care, and specifically in the primary care of persons with HIV. In one survey of patients attending 16 different clinics, 25% reported a general discussion of “safer sex and preventing HIV transmission” in that day’s visit, and fewer than 6% reported discussing specific sexual activities. In contrast, 41.5% reported discussing ARV adherence, and 33% reported discussing diet and nutrition [7]. In a qualitative study based on interviews with 19 HIV care providers [8], while all reported that they were concerned about their patients’ transmitting HIV, they also reported that they did little to counsel patients about the issue. Physicians were concerned that counseling could harm their relationships with their patients, and did not believe they could be effective. Specific barriers found in this and another qualitative study [9] included feeling uncomfortable with relevant topics, perceiving a conflict between the public health objectives of prevention counseling and their duty to the individual patient, not wanting to confront patients over non-disclosure, lack of relevant skills, and limited time and competing medical and social concerns.

However, trials have found that sexual risk behavior counseling is reported to occur more frequently when physicians are trained to provide it, or encouraged through written guidelines, and that self-reported sexual risk behavior by patients can be reduced [10, 11].

All prior research on prevention counseling in routine medical visits with HIV infected individuals has been based on provider and patient self-reports, and the evaluation of intervention trials. We are not aware of studies based on direct observation of discussions of sexual risk behavior with HIV infected patients in routine ambulatory care. Direct observation of clinical care would provide useful data in that (1) it is possible to rule out bias due to self-report or memory, (2) it permits assessment of the nature of discussions that do

occur and how effective they appear to be and (3) provides a basis for understanding how effective discussions might emerge. Therefore, to better understand the frequency and nature of discussions of sexual risk, we conducted a mixed method analysis of audio recordings of routine clinic visits for persons with HIV.

Methods

Study Design and Patients

This is a mixed-methods study using both quantitative description of transcripts of audio-recorded Physician–patient dialogue based on a specialized coding system, and qualitative description centering on case studies. The quantitative analysis supports rigorous characterization of the interaction process during discussion of sexual risk behavior, and comparison with discussion of other topics; while the qualitative description provides a rich description of individual interactions, including those in which there was a clear indication or opportunity for such discussion, but no such discussion occurred. We will further explain these criteria below.

Data for this study are audio recorded patient-physician encounters collected as part of a clinical trial (NCT 00870792), described elsewhere [12–14]. The clinical trial tested an intervention intended to improve the efficacy of Physician–patient dialogue about anti-retroviral adherence. Patient eligibility requirements included current use of HIV antiretrovirals, detectable HIV RNA at the most recent clinical visit, willingness to use an electronic pill bottle cap for one of the ART medications for the duration of the study, and English fluency. Providers worked in five diverse practice sites: two hospital-based infectious disease clinics, a community health center, a group practice, and an individual practice. All were infectious disease specialists or had extensive experience in HIV care. All encounters were routine, scheduled outpatient visits.

All participating patients and providers signed written informed consent, and the study was approved by the local Institutional Review Boards and Ethics Committees of all participating sites. Patients were compensated \$50 for each study visit. We audio-recorded one intervention, and one control visit for each participant—generally the first and third study visit. Usable recordings were sometimes unavailable due to reasons such as participant or provider refusal, poor quality or incomplete recordings. Of the 126 patients who completed three study visits and so could have had two recorded visits, paired audio-recorded visits were assessable for 58 participants (46%). These 116 recordings (58 intervention and 58 control visits), from five unrelated practice sites, constitute the data for this study. The intervention had the effect of increasing the amount of dialogue about ART adherence, but did not reduce or otherwise affect dialogue about other subjects, based on our coding system (see below). Hence we believe the data are suitable for this secondary analysis.

There were no significant differences between the participants for whom we did and did not have paired recorded visits on age, gender, race, education, marital status, housing status (% homeless), sexual orientation, employment, HIV risk factor, physical or mental health status, or depression ($p > 0.05$).

Study Variables

Audio recordings of visits were transcribed by a professional transcription service or a research assistant, and the resulting transcripts were reviewed for accuracy by another research assistant or one of the investigators (MBL). We coded and analyzed the transcripts using a system called the Generalized Medical Interaction Analysis System (GMIAS).

There are many extant systems for coding and analyzing Physician–patient communication, which have produced a large literature, [15] based on defining various kinds of behaviors, by physicians and patients, and counting their frequencies. Although they do not capture the dynamic nature of interaction over time, [16] they have been found to have numerous relationships to physician and patient characteristics, and outcomes [17]. However, the widely used systems have additional limitations, including lack of a guiding theoretical framework [18], and assignment of only a single code to each utterance. This makes it impossible to compare interaction process among various topics [19].

Briefly, the GMIAS assigns two codes to each utterance. One code captures interaction process based on Speech Act Theory, [20, 21] a sociolinguistic approach which identifies the social act embodied in an utterance, e.g. forms of questioning; representations about objective reality (“Your blood pressure is normal.”); expressions of the speaker’s inner state such as beliefs, opinions, goals, desires, and emotions; directive utterances intended to influence the listener’s behavior (“Take this with food.”); commissives (e.g., promises); and utterances intended to manage the conversation. The unit of analysis is defined as a completed speech act.

The second code labels the topic or subject matter of the utterance. Topics include physical health, psychosocial issues, logistics, physical exam, studies and trials, socializing, HIV antiretrovirals, non-HIV pharmacotherapy, non-allopathic treatments, and non-pharmacological treatments (e.g., surgeries), with specific sub-codes within most of these. Both topic and speech act codes can have several levels of hierarchy. For example, topic code 6.x is “HIV Antiretrovirals,” and within that 6.3 is “Prescribing” and with that 6.31 is “Change in or recommendation for regimen.” As many as five levels of hierarchy are used (See Table 1).

Evidence for the reliability and validity of the GMIAS has been previously described in abstracts [22, 23], and is available at <http://160.109.101.132/icrhps/faculty/facultypages/LawsBarton.asp>. Interrater reliability was good, with Kappas for topic codes between the developer of the GMIAS (MBL) and three other coders of 0.80, and for speech acts 0.71. Agreement was even higher at the top (integer) level. The GMIAS has been used to characterize interaction process in Physician–patient communication about antiretroviral adherence [13], and to elucidate the association of visit length with constructs of patient-centeredness [24].

Analyses

For purposes of this study, we extracted all of the dialogue in our database which was originally coded as “health behavior,” and added an additional code to indicate whether the topic was diet, exercise or weight management; tobacco; sexual risk behavior; or other risks, e.g., wearing seat belts or sun exposure. These were the topics which appeared most frequently in the data. Supplementary coding was done by a research assistant who was trained in the use of the GMIAS. One of the investigators (MBL) then reviewed all of her coding and the two then discussed and agreed upon the final coding decisions. We had previously coded for discussion of substance abuse and addiction.

Note that when the topic is coded to a health-related behavior, that does not necessarily mean the physician is counseling the patient about the behavior or working with the patient to reduce risk or promote health. For example, the physician may inquire whether a patient engages in a risk behavior, or eats a healthy diet, and simply accept the patient’s response. Sometimes there is a fairly lengthy discussion of health behaviors in which no counseling occurs.

We first conducted quantitative analyses using GMIAS coding to compare patterns of speech acts within the sexual risk behavior topic with those in the diet, exercise and weight management topic, the substance abuse topic (other than tobacco), and the tobacco use topic. Because the intervention influenced the amount and nature of discussion about ARV adherence, we did not include that topic in the comparison.

Our analysis included general comparison of the frequencies of speech acts of interest—notably physicians giving information, giving instructions (directives), asking questions, and making expressive utterances such as stating goals or preferences, or complimenting or criticizing the patient. We used chi square, and Fisher's exact test where appropriate, to test the significance of observed differences.

Then, to identify cases in which sexual behavior may have been discussed or the presence of sexual risk behavior implied, but no discussion of sexual risk occurred, one of the investigators (MBL) read all of the cases and looked for "cues," in which patients indicated in some way that they were sexually active, were at risk for STIs, or were suspected of having an STI or were diagnosed or treated for STIs. To assure that no cases were missed, either at this stage or in the initial coding process, the entire database of 116 transcripts was searched electronically for possibly relevant text strings such as "sex," "STD," specific names of sexually transmitted infections, "condom," "Viagra," "libido," "partner" and various slang terms for sexual acts. Seven such cases were identified, in addition to the 10 in which some discussion of sexual risk behavior did occur, for a total of 17. Figure 1 tracks the identification and analysis of cases.

A second investigator (YB), in consultation with the first author, then conducted a descriptive analysis of all 17 cases in which she looked for key variables in the data, and ultimately classified cases according to how the issue of sexual risk behavior was introduced, and by whom; how the physician responded to whatever cue or information was presented; additional context for the issue such as patient substance abuse and social context; and how the issue was followed up and the discussion terminated. During this process the authors frequently discussed the cases in team meetings. One of the investigators (MBL) then applied these categories to all of the cases using Atlas.ti™ software for qualitative data analysis (Scientific Software Development GmbH), and organized the cases into a simplified, intuitively meaningful scheme. The two authors then consulted again on the presentation of the cases, and wrote more extensive case studies of particularly evocative encounters.

Results

Participants

The mean age of participants was 42 years, 24% were female, and 49% were nonwhite. Seven percent lived in a shelter or were homeless, 32% were working full time, and 24% screened positive for depression at study entry. There were 39 providers in all, 15 women and 24 men. Thirty-seven were non-Hispanic white and two were Asian.

Frequency of Risk Behavior Discussions

Out of 116 encounters with 58 patients, 10 visits (9 patients), included some discussion of sexual risk behavior. Six were in the intervention, and four in the control arm, of the study. Of these 10 visits, only 4, all with male patients, included any counseling or information from the physician regarding sexual risk or safer sex. In two of these four the counseling was very brief—essentially a single piece of information or advice. In contrast, there were 51 visits, involving 35 patients, in which discussion of diet, exercise and/or weight management took place. Tobacco use was discussed in 24 visits, and other substance abuse

in 27. Note that in five cases, the patient made an utterance about tobacco use but the physician made none.

Most of the visits in which some dialogue about sexual risk behavior occurred feature only brief discussions. The minimum number of utterances coded to the topic is 5, median 19, maximum 99. The pattern is not markedly different for discussion of other risk behavior topics. The minimum number of utterances regarding diet and weight management was 1, median 20, maximum 153; the range of utterances regarding tobacco use was minimum 1, median 8, maximum 107; and the range for substance abuse was minimum 1, median 11, maximum 79.

Patterns of Speech Acts within Risk Behavior Topics

Because of the limited number of utterances concerning sexual risk behavior, and limited number of cases in which it occurs, comparisons with interaction processes concerning other topics should be interpreted cautiously. Nevertheless, comparison of speech act patterns between discussion of diet, exercise and weight management; substance abuse; and tobacco use with discussion of sexual risk behavior shows some consistent and potentially meaningful differences (See Table 2).

In all discussion of sexual risk behavior, more than half of all physician utterances consisted of giving information. In contrast, for all discussions of diet, exercise and weight management, 24% of physician utterances consisted of giving information ($\chi^2 = 54, p < 0.0001$), the proportion was 12.8% for substance abuse ($\chi^2 = 76, p < 0.001$), and the proportion was even lower for discussion of tobacco use, 8% ($\chi^2 = 71, p < 0.001$). Conversely, physicians made more directive utterances (e.g., to eat or avoid certain foods, or to set a date to quit smoking) in the diet and exercise and tobacco topics than in the sexual risk topic ($\chi^2 = 5, p = 0.02$ and $\chi^2 = 11, p = 0.06$, respectively). The proportion of directives was similar for the substance abuse and sexual risk behavior topics.

While patterns of questioning—open, closed and leading—did not vary consistently, physicians did ask fewer questions overall in the sexual risk behavior topic than in the other topics. In the substance abuse topic in particular there were many physician questions, of all kinds.

With respect to patient speech acts, the most striking difference concerned self-reports of behavior, which were significantly less prevalent in the sexual risk behavior topic than in the others ($\chi^2 = 18, p = <0.0001$; $\chi^2 = 5.5, p = 0.02$, and $\chi^2 = 7.4, p = 0.01$, respectively.) The magnitude of these differences was large. Self-reports of patient behavior were almost three times as prevalent in the diet and exercise topic, and twice as prevalent in the tobacco and substance abuse topics.

Qualitative Discussion of the Cases

Table 3 summarizes events in all 17 cases. In three definite and one ambiguous case, there was a conversation involving a denial that any further conversation was necessary. In an additional nine cases, there was either a weak ($n = 4$) or strong ($n = 5$) clue that a discussion was appropriate, but no discussion occurred. In the final four cases, the physician engaged in a discussion of sexual risk behavior. These categories are further described below.

Denial of Need for Sexual Risk Behavior Counseling—In one case, that of the only woman patient among the 17 cases we identified, in response to a brief inquiry, the patient reported always using condoms, and no further discussion of the subject occurred. In an additional case, the physician asked if there was any need to discuss safe sex, and the patient

answered “no.” No definition of safe sex was proposed, and no further discussion of the issue occurred. In one case, in response to a brief inquiry, the patient denied being sexually active, and no further relevant discussion occurred. Hence, in a total of three cases, the only discussion of sexual risk behavior consisted of some form of denial on the part of the patient that further discussion was necessary.

We classified one case as ambiguous. This patient was being treated surgically for anal venereal warts. He discussed with the physician his puzzlement about how he acquired the infection, as he denied ever having had receptive anal contact or having had sex with a man in any way. The physician agreed that it was puzzling but concluded, “Well in some ways it’s academic, it’s water under the bridge. We don’t know how you got it, but you have it and you’re getting the right treatment.”

Weak Cues—In four cases, we identified what we classified as a “weak cue” that might have provided an occasion for the physician to raise the issue of sexual risk behavior, but it was never mentioned. These included two requests for Viagra, one of which included a report that the patient, who was in a residential treatment program, visited his wife on weekends. They also included two reports of satisfactory libido in response to a physician inquiry, one of which also included a report of having a sexual partner.

Indications of Unsafe Sex—In five encounters there was an unambiguous indication that the patient had engaged in unsafe sex: either a diagnosed STI, a suspected STI which the patient either affirmatively or tacitly acknowledged was possible, a request for STI screening, or a direct report of sexual risk behavior by the patient. In two of these cases, there was no discussion of sexual risk behavior beyond the tacit implication that it must have occurred. Rather, the physician’s response was limited to STI diagnosis and treatment.

In one encounter, the physician announced that the clinic was generally recommending STI screening to its MSM patients because of a recent increase in the prevalence of syphilis and gonorrhea. The patient agreed to screening and specifically requested a rectal swab. The physician then asked two questions to which he did not receive a verbal answer, but moved on. We cannot rule out that the patient made a nonverbal response but the recording shows no sign of pause to register a nod or shake of the head.

D Should we do a throat swab for gonorrhea? Have you had any oral contact at all?

P Let’s do it

D Are you having any discharge or anything from your penis? Generally men if they don’t have any symptoms we don’t need to do a culture there

P Ok

D Ok. We’ll do some of these things as we examine you

As he collected samples, the physician engaged in a general discussion about the prevalence of sexual risk behavior in the local gay community, which he associated with methamphetamine use and Internet “hookup” sites. The patient appeared interested:

P What makes the internet medium makes them more likely to have lesser safe sex?

D Because it’s more spur of the moment where they connect online and they literally hook up

P so its more like –

D Can you lift up your shirt so I can take a listen on your back...Yeah so there are the two recent risk factors

P You...um...the websites that cater to like

D Yeah like manhunt...a couple of others...ok a nice deep breath...now you can lay back for me

P How does the–

The physician interrupted the patient's last utterance and changed the subject. No discussion occurred of the patient's own sexual behavior, or behavioral risk reduction. The sole focus was on screening for STIs.

Another patient appears in our data twice, seeing different physicians. The first time he reported that his partner was using methamphetamine, and that this was causing problems in their relationship. He denied using methamphetamine himself but reported using GHB "occasionally." The physician did not follow up on this information and changed the subject. Later, the patient reported symptoms of urethritis with discharge, and that he treated himself with his partner's prophylactic Zithromax. The physician responded that Zithromax is not an appropriate treatment for gonorrhea and ordered a ceftriaxone injection and STI screens. No specific discussion of the patient's sexual behavior, or risk reduction, occurred in the visit.

In the same patient's second visit, the physician asked "Are you being more careful in terms of sexual play or not so much?" The patient reported that he had unprotected sex with multiple partners, and volunteered that he did not disclose his HIV status unless he was asked. He further volunteered that some people actively seek to become HIV infected. He found this odd but did not clearly state that he declined to oblige them. The physician and patient engaged in an abstract discussion about these issues, but the physician at no time indicated that it would be an appropriate goal for the patient to reduce his sexual risk behavior nor provided any counseling about doing so. It was the patient who sustained the discussion: For example:

P Yeah, and I just, I can't comprehend not asking, although it's surprising the number of people who want to have unprotected sex who know that you're positive

D You make the assumption that maybe they're positive but they don't know that

P Yeah. I guess you know I've had it happen where people who say they're not and want –

D That's a little freaky

P Not only want to have unprotected sex but they want you to you know, to ejaculate inside of them

D umm that's a little freaky, isn't it?

P Well I've heard people who use the expression, "I want your, you know I want your charged seed"

D mmhmm

P and you know okay, if you're positive that's one thing, although they know they're [crosstalk]

D You can get dressed now

The patient then returned to the issue but the physician terminated it:

D We could have a three hour discussion about that issue

P Yeah. I don't understand it, stuff

D If you do understand it let me know, okay? 'Cause you'll help me out a lot

P [3w] I shouldn't have asked [chuckles]

D Uhh, there's a lot of psychological reasons why people have come up with that. I'm gonna leave this form with, um, Elaine (name changed) to change the subject quickly, and Elaine will get the blood work from you today

Sexual Risk Behavior Counseling—In four cases, the physician provided some form of counseling or information about sexual risk reduction. In two of these there was a specific indication for such a discussion. In one, the discussion was minimal. The patient reported having been diagnosed elsewhere with venereal warts and asked whether condoms protect against them. The physician responded that they may not and advised the patient to “basically keep an eye on them.”

In another encounter, the patient presented with suspected syphilis, herpes simplex, and intestinal parasites, and generalized lymphadenopathy. He reported methamphetamine abuse, and sex with multiple partners. The physician was apparently aware from previous encounters that the patient engaged in oral-anal contact, to which the physician ascribed the intestinal infection. The physician collected samples for STI tests, and briefly advised the patient to desist from oralanal contact. He then scheduled a follow-up visit when he would have more time to address the behavioral issues.

In only two encounters was there substantial counseling or advice by the physician regarding sexual risk reduction. In one, the physician emphasized to a man who reported having a new female sexual partner that it is important to put the condom on prior to any genital-genital contact, not only prior to intromission. In the second, although the patient was apparently not currently sexually active, the physician talked about the importance of always using “protection,” which she did not define, because of the danger of re-infection with a resistant strain of HIV.

Discussion

This study replicates and extends findings from self-reports that discussion of sexual risk behavior in routine HIV care visits is uncommon. We further observe that when discussion does occur, it is often cursory and that physicians may accept brief dismissive responses from patients without credibly ascertaining whether they may be engaging in unsafe practices.

When physicians did discuss sexual risk behavior, the discussions differed from discussions of other health behavior issues in that a higher proportion of physician utterances were informational, and a lower proportion consisted of instruction or direction. Patient self-reports of behavior were also less frequent in the sexual risk behavior topic. We interpret

these observations as meaning that the physicians did not engage patients' specific behavior or circumstances in these discussions, or elicit patient engagement in problem solving. Rather, they relied on providing general information about condom use.

What is entirely a new observation, as far as we know, is that in the majority of cases where physicians received an indication that patients are sexually active, which would present a clear entry point to discuss safer sex, the physicians did not do so. These observations are inconsistent with the consensus guidelines. Our data do not provide insight into whether more probing or assertive responses to patients' negations, or raising the issue of safe sex at every opportunity would be effective or appropriate.

It seems more evidently problematic, however, that even when patients presented with suspected STIs, or clearly stated that they were engaging in risky sex, physicians did not respond in any way which might be characterized as behavioral counseling. In two cases, it could be argued that the physician normalized or appeared to condone sexual risk behavior, by engaging in lengthy discussion of the subject with no indication that reducing the frequency of unsafe sex should be a goal. These physicians, in fact, appeared to actively avoid what may have been cues by the patients that they would have welcomed advice or support regarding safer sex, by changing the subject.

There is evidence that provider-based interventions have potential to reduce self-reported HIV transmission risk behavior in HIV-infected patients in care. In 2003, the Health Resources and Services Administration (HRSA) funded 15 trials of various intervention models in clinical settings for "Prevention with Positives," i.e. people living with HIV, some of which target physicians [25]. Results of these trials have recently become available. In a compilation of results, it was found that interventions delivered by medical providers showed a small reduction in patients' reported sexual risk behavior after 6 months, and a larger effect at 12 months [26]. Outcome measures are limited to patient self-reports, however. It remains to be demonstrated that such interventions can produce clinical outcomes such as reduced incidence of STIs. It may also be that multiple, reinforcing intervention strategies in addition to counseling by providers would be most effective, although the results of the HRSA studies suggest that implementing multiple interventions in individual clinics can be excessively demanding.

This study is limited to a few settings in a single state. Practice patterns elsewhere may be different. We have only two visits for each patient so it is possible that participants have had previous discussions about sexual risk behavior, although we note that the guidelines do call for a brief behavioral intervention at every visit. This may not be realistic, but if that is so, the guidelines may require reconsideration. Generalizability may be limited in that patients had to agree to participate in the trial, and meet eligibility requirements, including speaking English.

We cannot rule out that other demand characteristics of the situation affected the results. For example, as eligibility was restricted to patients with detectable viral load, and physicians knew that they were being audio recorded as part of an antiretroviral adherence intervention study, they may have focused more on adherence than they would otherwise. However, even in the cases where there were strong cues, there was not lengthy discussion of sexual risk behavior, while these cases did not feature substantial discussion of ART adherence either.

It is possible that knowing they were being recorded may have made physicians more inhibited with respect to providing counseling about sensitive topics. However, there is considerable evidence that such "Hawthorne effects" are not very important [27, 28]. A strength of this study is that neither physicians nor patients were primed to think about sexual risk behavior counseling or the other topics included in this analysis. We consider it

likely that our observations represented typical interactions. An additional strength of this study is that it does not rely on self-reports by physicians or patients to assess whether discussion of sexual risk behavior occurred. Indeed, it suggests that some instances in which self-reports are positive may represent very limited or unfocused discussions.

In any event, these findings point to a potential shortcoming in HIV care. It is not enough to promulgate guidelines that call for physicians to provide counseling at each visit. Physicians need specific skills so that they have the self-efficacy to undertake counseling, and the capability of effectively supporting their patients in reducing sexual risk behavior.

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Fig. 1.
Flow chart of identification and analysis of cases

Table 1

GMIAS coding categories

General classification	Examples of specific categories
Topics	
Biomedical	Diagnosis, symptoms, tests, risk behavior, screening, treatment; ARV therapy including non-adherence, and adherence problem-solving; sexual risk behavior, tobacco use, diet/exercise/weight management
Psychosocial	Substance abuse, recovery, emotions, relationships, health of others, social services, housing
Logistics	General, physical exam, pharmacy
Socializing	
Speech acts	
Questions	Open, closed, leading
Representatives (assertions of fact)	General, own behavior, deduction, prediction
Expressives	Values, opinions, desires/goals, emotions, empathy
Directives	Recommend, mandate, encourage
Commissives	Promises, offers, permissions
Jokes	
Social ritual	

Table 2

Comparison of Speech Act frequencies within various health behavior topics

Physician speech acts									
Speech act	Sexual risk behavior (10 encounters, 187 utterances)		Diet, exercise, weight management (51 encounters, 708 utterances)		Tobacco use (19 encounters, 141 utterances)		Substance abuse (27 encounters, 235 utterances)		χ^2 (p-value*)
	Frequency	Pct.	Frequency	Pct.	Frequency	Pct	Frequency	Pct	
Open question	2 (0,0,0)	1.1	52 (0,0,2)	7.3	10.27	9 (0,0,1)	6.4	7	11.67
	0-2		0-9		(<.0001)	0-2		(0.01)	0-4
Closed question	19 (1,2,3)	10.2	85 (0,1,4)	12	0.49	28 (0,1,3)	19.9	6.16	22.1
	0-3		0-13		(0.48)	0-9		(0.01)	0-13
Leading question	3 (0,0,0)	1.6	35 (0,0,1)	4.9	4.06	12 (0,0,1)	8.5	8.79	9.8
	0-2		0-9		(0.04)	0-7		(0.01)	0-5
Information	97 (1,6,21)	51.9	171 (0,3,6)	24.2	54.18	11 (0,0,1)	7.8	70.69	12.8
	0-27		0-21		(<.0001)	0-4		(<.0001)	0-8
Expressive ^d	7 (0,0,1)	3.7	68 (0,1,2)	9.6	6.62	18 (0,0,1)	12.8	9.29	4.7
	0-5		0-13		(0.01)	0-15		(0.002)	0-4
Directives	17 (0,1,4)	9.1	110 (0,0,3)	15.54	5.05	31 (0,0,1)	22	10.7	8.1
	0-6		0-24		(0.02)	0-23		(0.001)	0-5
Patient speech acts									
Speech act	Sexual risk behavior (10 encounters, 110 utterances)		Diet, exercise, weight management (50 encounters, 883 utterances)		Tobacco use (24 encounters, 179 utterances)		Substance abuse (26 encounters, 281 utterances)		χ^2 (p-value*)
	Frequency	Pct.	Frequency	Pct.	Frequency	Pct	Frequency	Pct	
Open question	0 (0,0,0)	0	6 (0,0,0)	0.68	0.75	1 (0,0,0)	0.6	0.62	0
	0-0		0-2		(1)	0-1		(1)	0-0
Closed question	5 (0,0,0)	4.6	14 (0,0,0)	1.59	4.57	0 (0,0,0)	0	8.28	2.1
	0-3		0-5		(0.05)	0-0		(0.008)	0-2
Leading question	3 (0,0,0)	2.73	10 (0,0,0)	1.13	1.93	0 (0,0,0)	0	4.93	1.1
	0-2		0-3		(0.17)	0-0		(0.05)	0-2
Information	37 (1,3,4)	33.6	318 (2,6,14)	36	0.24	76 (0,1,6)	42.5	2.23	41.3
									1.94

Physician speech acts									
Sexual risk behavior (10 encounters, 187 utterances)		Diet, exercise, weight management (51 encounters, 708 utterances)			Tobacco use (19 encounters, 141 utterances)			Substance abuse (27 encounters, 235 utterances)	
Speech act	Frequency	Pct.	Frequency	Pct.	χ^2 (p-value [*])	Frequency	Pct.	Frequency	χ^2 (p-value [*])
	0-17	0-29		(0.62)	0-28		(0.14)		(0.16)
Self-report of behavior ^b	13 (0.1,3)	11.8	279 (2.6,8)	31.6	18.43	41 (0.1,3)	22.9	68 (0.2,4)	24.2
	0-4		0-47		(<.0001)	0-13		0-9	(0.01)
Expressives	15 (0.0,1)	13.6	109 (0.2,4)	12.3	0.15	31 (0.0,2)	17.3	28 (0.0,1)	10
	0-10		0-16		(0.7)	0-12		0-8	(0.3)
Directives	0 (0.0,0)	0	5 (0.0,0)	0.57	0.63	0 (0.0,0)	0	1 (0.0,0)	0.4
	0-0		0-4		(1)	0-0		0-1	(0.53)

Percentages refer to percentage of all speech acts, including those not shown. Infrequent speech acts of little theoretical interest in this context are not shown

^a Opinions, values, beliefs, emotions

^b This is a sub-category of information

^{*} p values for comparison with sexual risk behavior topic by Chi-square test(or Fisher's exact test)/

Table 3**Basic events in the cases**

Cue	Counseling	Patient characteristics and comments
Denial of need for sexual risk behavior counseling		
Dr. asks if Pt and boyfriend have sex; Pt says yes, volunteers they “always use condoms.”	None	39 yo white female, mean vl ^a 961 (GMIAS) ^b
Dr. asks if any need to discuss safe sex. Pt. says no.	None	46 yo gay white male, mean vl 7,966. No definition of “safe sex” or reasons why it might be discussed are proposed (GMIAS)
Dr. asks if Pt is sexually active, Pt. says no	None	47 yo gay white male, mean vl 394 (GMIAS)
Ambiguous case		
Pt. has anal warts but denies ever having sex with a man and is puzzled as to how he acquired the infection.	None	41 yo straight Hispanic male, mean vl 3,147
Weak cues		
Pt. requests Viagra; visits wife weekly in a separate residential treatment facility	None	46 yo straight Hispanic male, mean vl 14,526. Patient specifically asks for 32 doses of Viagra per month.
Dr. asks if refill needed for Viagra; Pt responds yes	None	49 yo straight Black male, mean vl 352
Dr. asks if libido, erections satisfactory, Pt. says yes. Pt. reports having a partner.	None	28 yo gay Hispanic male, mean vl 3,006.
Dr. asks if libido satisfactory, Pt. says yes.	None	36 yo gay white male, mean vl 142
Strong cues		
Pt. reports symptoms of urethritis, Dr. suspects STI	None	39 yo gay male, “other” race, mean vl 39,810
Pt. agrees to STI screen, specifically asks for rectal swab.	None	34 yo gay Asian male, mean vl 532. Substantial general discussion of the prevalence of casual sex in the local gay population as a reason for STI screening. No specific reference to Pt’s personal behavior or risk reduction (GMIAS)
Pt. reports partner is using methamphetamine; Pt. reports “partying” “on occasions” using GHB. Pt is being followed up for syphilis. Pt had urethritis w/dischage which he self-diagnosed as gonorrhea, self-treated with partner’s Zithromax. Dr. orders ceftriaxone injection and STI screens	None	46 yo gay white male, mean vl 1,762 (GMIAS)
Pt reports unprotected sex with multiple partners. Does not disclose his HIV status unless asked. Reports partners who are seeking to become HIV infected; he finds that strange but not clear that he declines. Dr. does STI screens. (Same Pt as #16, different Dr)	None	(Same as above patient) Dr. and Pt engage in abstract discussion about people who have unsafe sex, do not inquire about partner’s HIV status, or intentionally seek to become HIV infected. Does not specifically address Pt’s behavior or suggest that behavior change is desirable or should be a goal (GMIAS)
Patient reports sexual activity; suspected STI. Dr. orders anal pap smear	None	50 yo gay white male, mean vl 2,123
Presence of sexual risk behavior counseling		
Dr. inquires if Pt. has “good erections,” following up on a previous complaint. Pt. states he has a new sexual partner.	Dr. gives technical instruction in condom use.	43 yo straight Black male, mean vl 524. (GMIAS)
Dr. asks if sex life with partner is good, Pt says yes. Pt. reports having been diagnosed with venereal warts.	Dr. states HPV can pass through latex.	30 yo gay white male, mean vl 83,396. (GMIAS)
Suspected syphilis, herpes, and intestinal parasites, generalized lymphadenopathy. Pt reports sex with multiple partners in conjunction with methamphetamine use, oral-anal contact, receptive anal intercourse with no indication of condom use	Dr. advises Pt to desist from oral-anal contact.	40 yo gay white male, mean vl 81,938. Dr. schedules a follow-up visit to address the behavioral issues (GMIAS)
Pt is socially isolated, implies no sexual activity	Dr. lectures Pt on importance of always	36 yo gay Black male, mean vl 25,127. Dr. does not define “protection” (GMIAS)

Cue	Counseling	Patient characteristics and comments
	using protection to avoid superinfection.	

^a Mean viral load over course of study

^b (GMIAS) = case includes some dialogue coded to the sexual risk behavior topic