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Audio-CASI vs interview method of administration of an HIV/STD risk of exposure screening instrument for teenagers

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Summary

Previous research conducted to examine the implications of using audio-computerized (A-CASI) procedures to gather sensitive sexual behaviour data has provided mixed results. The purpose of this study was to assess differences in the disclosure of HIV risk behaviours between subjects interviewed face to face and subjects interviewed using A-CASI procedures. An HIV/STD risk of exposure screening instrument was administered to 265 male and female adolescents in the juvenile justice system. T-test analyses revealed that adolescents assessed using A-CASI procedures endorsed fewer items on the HIV/STD screen than those interviewed by an assessor. In addition, those in the A-CASI group endorsed fewer items with explicit sexual or drug content and fewer subtle items. Results of this study suggest that A-CASI may not be suitable for use among adolescents in the juvenile justice system when assessing undesirable and/or illegal behaviours.

Keywords

HIV; HIV prevention; adolescents; A-CASI; substance abuse

INTRODUCTION

During the past few years, audio computerized administration (A-CASI) of measures has become increasingly popular among researchers¹. The advantages of computerized testing may include increased cost-efficiency due to decreased data entry needs, reduction in errors due to reading difficulties, increased privacy for subjects, and potentially increased accuracy of subject self-report of sensitive behaviours such as sex risk behaviours due to increased privacy^{1,2}. However, research conducted to examine the benefits of using computerized testing in the collection of sensitive data has provided mixed results. Kissinger and colleagues³ found that women tended to admit socially undesirable sexual behaviours more often when assessed by a computerized video administration method than when assessed by an interviewer face to face. Turner *et al.*⁴, and more recently, Gates & Sonenstein⁵ found that adolescent males in a nationwide survey were more likely to report risky sex behaviours when assessed via A-CASI than when given a self-administered paper and pencil instrument. Additionally, gay men were found to be more likely to report having HIV positive partners and unprotected receptive anal sex when assessed using A-CASI⁶. Intravenous (IV) drug users assessed via A-CASI also reported more needle-sharing behaviour than those interviewed, but reported less frequency of injecting drugs than those assessed by an interviewer⁶.

These findings taken together suggest the possibility of situation-specific, differential impact of assessment via A-CASI. For example, computerized assessment may be more valid and therefore more useful for community-based populations, rather than clinical settings in which individuals are accustomed to discussing sensitive topics. Conversely, participants in correctional facilities may be less likely to report what may be perceived as 'incriminating' information without the rapport and trust conveyed in a more personal face-to-face interview. As both substance-abusing adolescents and individuals in the criminal justice system are at increased risk for HIV/AIDS⁷⁻⁹, this could be a crucial distinction in designing risk assessment procedures. The purpose of this study was therefore to assess differences in the disclosure of HIV risk behaviours on an HIV/STD risk of exposure screen between two methods of administration (A-CASI vs Face to Face interview with subjects marking their own answers) among a sample of predominantly minority substance abusing adolescents.

METHOD

Participants

Participants were 181 male and 84 female adolescents seen in a court-ordered adolescent inpatient substance abuse treatment programme or in a juvenile detention centre, both located in Miami-Dade County. The sample approximated consecutive admission to the programme between 1998 and 2000. Participants were excluded from the study if they refused informed assent and/or their parents (or legal guardians) refused written consent, or if they suffered from severe cognitive or psychiatric impairments (e.g. psychosis). All adolescents were fluent in spoken English.

The modal subject was a low income, ethnic or racial minority adolescent who abused alcohol, marijuana, and/or non-injection 'crack' cocaine and resided in the urban inner city. The mean age of the sample was 15.61 (SD=1.23; range 11 to 18). Subjects' did not differ by site or age ($t=0.77$, $P=0.44$).

Assessment procedures

Measures included the HIV/STD risk-of-exposure screening questionnaire an inventory designed to measure risk of exposure to HIV and other STDs as detailed below. Assessments were conducted using two separate procedures. Approximately half of all participants were administered measures using an audio computer assisted, self-administered interview ($n=148$). This procedure allowed participants to respond to items read aloud through headphones by pressing a single key on a computer keyboard. The other portion of participants ($n=117$) completed measures using paper and pencil during a face-to-face interview in which assessors read items aloud and participants marked their answers on a sheet of paper that the assessor could not see. To avoid interviewer drift and other contaminating factors, interviewers received ongoing supervision from a clinical psychologist for the duration of the study. Interviewers were careful to ensure that respondents understood the meaning of each question. An interviewer would repeat or elaborate on questions if a respondent showed any evidence of confusion. Interviewers were trained to adopt non-judgemental attitudes and to establish rapport and build trust. To ensure confidentiality, increase compliance, and facilitate accurate reporting, interviews were conducted in a confidential manner, in a room that allowed for privacy. Participants were told that their responses would not be shared with treatment staff. In addition, as suggested by previous researchers¹⁰, efforts were made to motivate participants to respond accurately in order to reduce the likelihood that reports of sexual experiences would either be minimized or exaggerated. Participants were informed that their responses would be used to help improve HIV prevention programmes for others like themselves in substance abuse treatment or juvenile detention.

Subsequent to informed assent and parental consent, baseline assessments were administered one week after admission and with clearance from treatment staff that detoxification was adequately completed. This was done to minimize the effect of detoxification or withdrawal factors on test performance and to maximize accuracy of responses.

Measures

The HIV/STD risk-of-exposure screening questionnaire is a 27-item questionnaire created by the National Institute on Drug Abuse¹¹ to be developmentally appropriate for use with adolescents 12 through 19 years of age. The 27-item set includes items directly related to known HIV risk behaviours (e.g. anal and vaginal sex; alcohol and drug use) as well as items that appear to be more indirect or subtle (e.g. Do any of your brothers or sisters take drugs or drink too much? Have any of your closest friends had sex? If you get into trouble, can you go to your family for help?). Responses are in a yes/no format and yield a total score, with higher scores indicative of high-risk behaviour. Because we were interested in types of items that may be more likely to be endorsed due to method of administration, we also looked at subsets of the 27 items including a four-item scale with explicit drug behaviour content (e.g. Have you ever injected a drug? Have you been drunk in the past two weeks?), a 16-item scale composed of items with explicit sex behaviour content (e.g. Have you ever had an STD? Have you ever had vaginal sex? Have you ever had oral sex?), and a five-item scale composed of more subtle items such as 'If you get into trouble can you go to your family for help?' and 'Have any of your closest friends had sex?'

Statistical analyses

Means, standard deviations, frequencies and other descriptive statistics were derived to characterize the sample. T-tests were used to test for group differences on the total score of the HIV/STD screen, the explicit drug item scale and the explicit sex item scale.

RESULTS

Means and standard deviations for the HIV/STD risk-of-exposure screening questionnaire by method of administration and the sample as a whole are presented in Table 1. On average across methods, subjects endorsed 9.41 (SD=4.10) of the total 27 items, and less than one item (M=0.95, SD=0.97) out of four explicit drug behaviour items. Of the explicit sexual items, subjects across methods endorsed a mean of 6.11 items (SD=2.92), and 2.71 of the five subtle items were endorsed (SD=0.96).

Differences in item endorsement between the two methods of administration were evaluated in a series of t-tests (see Table 1). Subjects who were administered the HIV/STD risk of exposure screen using the A-CASI endorsed fewer items than those administered the instrument during a face to face interview on the total score, explicit drug items sub-scale, explicit sex items sub-scale and the subtle items (all P 's <0.01) (see Table 1), with similar findings for both genders when analysed separately (see Table 2).

DISCUSSION

On average, this sample of adolescents reported that they engage in a significant amount of risky behaviour that may place them in jeopardy of contracting HIV or other STDs. Significant differences were found for the total score of the instrument as well as the explicit sex, explicit drug and subtle item sub-scales with those assessed via A-CASI endorsing fewer items. Specifically, those assessed via A-CASI reported less actual risk behaviour (e.g. unprotected vaginal, anal or oral sex; drug and alcohol use) as well as less theoretical HIV risk correlates (e.g. drug, alcohol and sex risk among friends and family). These findings are contrary to the

findings of previous studies in which subjects assessed using A-CASI had higher rates of disclosure than those assessed via interview methods^{3–6}.

The findings of this study suggest that the contexts of settings in which individuals are assessed are important for honest disclosure of HIV/STD risk behaviours. At the time of assessment our sample of adolescents, were either awaiting adjudication for criminal charges, serving sentences, or in court-ordered substance abuse treatment, the two latter of which both require staff to report on residents' behaviour. Previous studies have obtained samples from community health agencies^{3,6} and national surveys^{4,5}, not from the criminal justice system. Despite careful explanation of the confidentiality of responses, adolescents awaiting adjudication for criminal offences may bias reports of undesirable and illegal behaviours when assessed using computers due to fear of legal consequences (i.e. additional charges, more jail time). Our interviewers who conducted assessments for the interview group were well trained to establish rapport and put subjects at ease to ensure confidentiality of responses. Therefore, in these forensic settings, subjects assessed face to face may have felt more motivated to provide honest answers given the established relationship with assessors. In addition, subjects marked their own answers on a sheet that had no identifying data, and it may not have been as evident to those assessed via A-CASI that the data collected would not be used to incriminate them in any way (e.g. via communications to police or probation officers).

Subjects in this study were not randomly assigned to method of administration of the instrument and therefore it is not possible to determine that lower reports of risk behaviour among the A-CASI group were solely due to method. It may be that those assessed via A-CASI actually engaged in fewer risk behaviours. Another limitation of this study is the lack of generalizability to other samples of adolescents not involved in the criminal system and other types of self-report data. An alternate interpretation of our results could be that the lower responses among the A-CASI group may reflect higher validity or less exaggeration. However, this possibility seems unlikely given the established high risk nature of this population^{7–9}. An additional limitation that may have affected our results is that we did not have access to information regarding what stage of the criminal process individuals in this sample were in at the time of assessment, which may have been useful as a covariate. Despite these limitations, the results of this study suggest that context and population are important considerations in choosing method of administration for HIV/STD risk screening as well as reports of undesirable and illegal behaviours. In order to draw conclusions about the appropriateness of using A-CASI procedures among adolescents in the juvenile justice system further research is warranted to cross-validate these findings with this and similar measures among additional adolescent forensic samples.

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References

1. Malow R, Gustman S, Ziskind D, et al. Evaluating HIV prevention interventions among drug abusers: Validity issues. *J HIV/AIDS Prev & Ed Adoles Childr* 1998;2:21–40.
2. Snider E, Navaline H, Petro C, et al. An automated version of the risk assessment battery (RAB): reliability, validity, and subject acceptance. *NIDA Research Monograph Series* 1995;153:65.
3. Kissinger P, Rice J, Farley T, et al. Application of computer-assisted interviews to sexual behavior research. *Am J Epidemiol* 1999;149:950–4. [PubMed: 10342804]
4. Turner C, Ku L, Rogers S, et al. Adolescent sexual behavior, drug use, and violence: Increased reporting with computer survey technology. *Science* 1998;280:867–73. [PubMed: 9572724]

5. Gates GJ, Sonenstein FL. Heterosexual genital sexual activity among adolescent males: 1988 and 1995. *Fam Plann Perspectives* 2000;32:295–7.
6. Metzger DS, Koblin B, Turner C, et al. Randomized controlled trial of audio computer-assisted self-interviewing: Utility and acceptability in longitudinal studies. *Am J Epidemiol* 2000;152:99–106. [PubMed: 10909945]
7. Centers for Disease Control, Division of HIV/AIDS Prevention. *Surveillance Report* 2000;11:2.
8. Jemmott, JB.; Jemmott, LS. HIV behavioral interventions for adolescents in community settings. In: Peterson, JL.; DiClemente, RJ., editors. *Handbook of HIV Prevention*. New York: Kluwer Academic/Plenum Publishers; 2000. p. 103-27.
9. St Lawrence JS, Brasfield TL, Jefferson KW, et al. Cognitive-behavioral intervention to reduce African-American adolescents' risk for HIV infection. *J Consult Clin Psych* 1995;63:221–37.
10. Jemmott JB, Jemmott LS, Fong GT. Reductions in HIV risk-associated sexual behaviors among black male adolescents: Effects of an AIDS prevention intervention. *Am J Public Health* 1992;82:372–7. [PubMed: 1536352]
11. Rahdert, E. Problem oriented screening instrument for teenagers (POSIT), Special Report, Development of a POSIT-Related HIV/STD Risk of Exposure Scale. National Institute on Drug Abuse: National Institutes of Health. 1997.

Table 1

T-tests between A-CASI and interview method of administration on sex risk behaviours across entire sample

Variable	Total sample <i>n</i> =265	A-CASI <i>n</i> =148	Face to face paper and pencil interview <i>n</i> =117	<i>P</i>
HIV/STD risk of exposure total score	9.41 (4.10)	8.46 (3.70)	10.59 (4.28)	0.001
Explicit drug items	0.95 (0.97)	0.67 (0.81)	1.31 (1.03)	0.001
Explicit sex items	6.11 (2.92)	5.58 (2.82)	6.76 (2.92)	0.001
Subtle items	2.71 (0.96)	2.56 (1.00)	2.90 (0.88)	0.004

Table 2

T-tests between A-CASI and interview method of administration on sex risk behaviours for boys and girls separately

Variable	Boys A-CASI <i>n</i> =97	Boys face to face paper and pencil interview <i>n</i> =84	<i>P</i>	Girls A-CASI <i>n</i> =51	Girls face to face paper and pencil interview <i>n</i> =33	<i>P</i>
HIV/STD risk of exposure total score	8.56 (3.73)	10.55 (4.13)	0.001	8.28 (3.68)	10.79 (4.74)	0.008
Explicit drug items	0.71 (0.80)	1.28 (0.91)	0.001	0.58 (0.84)	1.39 (1.25)	0.002
Explicit sex items	5.64 (2.86)	6.80 (2.78)	0.007	5.46 (2.77)	6.73 (3.36)	0.065
Subtle items	2.65 (1.03)	2.94 (0.90)	0.045	2.40 (0.93)	2.85 (0.84)	0.027