

Effect of audio computer-assisted self-interview on self-reported drug use and risky health behaviors

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ABSTRACT

Aims: The sensitive nature of HIV risk behaviors poses a challenge for accurate measurement in both epidemiological and clinical contexts. This study sought to determine whether audio computer assisted self-interviewing (ACASI) is more effective than face-to-face interview methods in eliciting reliable and valid information regarding stigmatized and sensitive behaviors.

Methods: Patients admitted to a drug-free outpatient substance abuse treatment program (n=177) were given a face-to-face interview about their drug use and sex risk behaviors using the TCU HIV/AIDS Risk Assessment. Within a week, the same interview was re-administered using the ACASI format.

Results: The findings indicate potentially important interview mode differences in reported high risk behaviors. In the ACASI format, participants reported higher frequency of having sex without a condom while trading for drugs, money, or gifts (p<.01). Furthermore, no male participants reported having male sex partners in the face-to-face interview, but the ACASI identified five males who reported engaging in male/male sex (p<.05). However, an idiosyncrasy associated with ACASI relative to question complexity is indicated by higher reported frequency of injection drug use in the face-to-face interview (p<.001), which is believed to be due to probing by the interviewer.

Conclusion: ACASI as able to capture more reports of sensitive and stigmatized behaviors such as engaging in sex trade and men having sex with men. These behaviors parallel the major transmission categories for HIV infection. These findings have important public health implications with respect to risk behavior screening and surveillance.

INTRODUCTION

While two decades of research has sparked remarkable advances in HIV/AIDS care, HIV/AIDS remains a serious public health problem in the United States despite the investment of significant resources to combat this disease. Epidemiological surveillance data indicate that the HIV infection rate in Washington, DC is double the national average (Greenberg, Magnus & Kuo, 2008), and higher than rates found in similar size cities (Baltimore, Philadelphia, New York City, Detroit, and Chicago), spurring comparisons of DC's HIV/AIDS rate to that of developing nations such as Uganda and Kenya.

Baltimore has the second highest incidence of AIDS cases of any major metropolitan area, with 40.4 cases per 100,000. Fifty percent of all reported living HIV and AIDS cases in Maryland were residents of Baltimore City at the time of diagnosis. Moreover, the fastest growing subgroup with AIDS is heterosexual men and women who are linked sexually to injection drug users. (*Baltimore City HIV/AIDS Epidemiological Profile* – June 30, 2006).

However, while HIV/AIDS is a serious public health threat, it is also preventable. A vital key to prevention of any public health threat is identifying reliable and valid methods of gathering accurate information regarding what people are doing that puts them at risk.

This study sought to determine whether audio computer assisted self-interviewing (ACASI) is more effective than standard interview methods in eliciting reliable and valid information regarding stigmatized and sensitive behaviors, such as risky needle use and sex behaviors.

METHODS

Patients admitted to a drug-free outpatient substance abuse treatment program (n=177) were given a face-to-face interview about their drug use and sex risk behaviors using the TCU HIV/AIDS Risk Assessment. Within a week, the same interview was re-administered using the ACASI format. The data collection occurs within the context of a baseline and follow-up interview, conducted within a minimum of two and no more than six days of each other by certified addictions counselors. The characteristics of the sample are described in the table below.

Characteristics	N = 177	
	n	%
Demographic		
Male	97	54
Never married	101	58
Mean age (SD)	44.4 (6.3)	
Education		
Mean Education, years (SD)	11.6 (1.8)	
Mean Vocabulary Score (SD)	19.6 (7.1)	
Prompted to enter treatment by CJS	44	24
Criminal Justice History		
Mean number of arrests (SD)	6.6 (1.8)	
Mean number of convictions	3.0 (3.4)	

A paired sample t-test is used to evaluate the impact of interview mode on report of stigmatized and risky health behaviors in the TCU/AIDS Risk Assessment. These findings indicate potentially important interview mode differences in reported high risk behaviors.

Paired Samples t-test: Interviewer Assisted Questionnaire (IAQ) versus ACASI

Item	N	IAQ		ACASI		Mean Diff (95% CI)	t
		Mean	Std Dev	Mean	Std Dev		
Shared Drug "Works"	28	.29	.60	.64	.95	-.357	-2.42*
Sex Trade w/o Condom	121	.07	.41	.26	.72	-.190	-2.81**
Male Sex Partners	105	.80	1.46	.97	1.61	-.171	-1.97*
IDU† (last 30 Days)	29	67.62	46.94	26.38	25.15	41.24	4.656***

†Injection Drug Use

Note: * = p < .05; ** = p < .01; *** = p < .001

RESULTS

In the ACASI format, respondents were more likely to report:

- having shared drug "works," (p<.05)
- higher frequency of having sex without a condom while trading for drugs, money, or gifts (p<.01)
- having male sex partners; ACASI identified five males who report engaging in male/male sex whereas no male participants reported male sex partners in the face-to-face interview (p<.05)
- However,** an idiosyncrasy associated with ACASI relative to question complexity is indicated by higher reported frequency of injection drug use in the last 30 days in the face-to-face interview (p<.001). Interviewers explained that they probed respondents and then calculated the rate based on respondent reporting of injection drug use per day or per week. The ACASI instrument was not structured to address the complexity of this question.

DISCUSSION

❖ There is a problem with deciding what survey items constitute sensitive and stigmatized behavior. As Del Boca and Noll (2000) indicate, deciding which items may be sensitive is a subjective judgment of the researcher.

❖ In the context of this study sample, admission of illicit drug use may be neither sensitive nor stigmatized, whereas, as evidenced by more frequent reporting on ACASI, admission of certain sensitive sexual risk behaviors is. This circumstance agrees with findings by Ghanem et al. (2005) who noted that STD clinic attendees affirmed sensitive sexual behaviors more frequently with ACASI than in face-to-face interviewing, but there were no differences in participant responses to questions on use of illicit drugs.

❖ The dilemma for researchers is to gather actual data on variation in respondents' perceived item sensitivity. Since much of the health services research on substance use and its related health issues is based on self-report, it is essential to engage in more rigorous scientific studies to improve the validity of self-report. Only then can we know which data collection procedures to use under what data collection circumstances within which populations for a given construct of interest.

❖ As noted earlier, an idiosyncrasy associated with audio-CASI relative to question complexity is indicated by higher reported frequency of injection drug use in the face-to-face interview (p<.001), which interviewers ascribe to probing. Interviewers indicate that they led participants through the task of calculating injection drug use over the past 30 days. This circumstance highlights the need to carefully consider how complex questions should be formatted when converting to a computer-assisted scale.

CONCLUSIONS

➤ There is no statistically significant difference in the means or "anchor points" for respondents receiving the TCU/AIDS Risk Assessment as an audio computer-assisted self-interview (ACASI) and as an interviewer-assisted questionnaire (IAQ). This is good news when considering the lower cost of computer-assisted questioning versus interviewer-assisted questioning.

➤ However, there are potentially important interview mode differences in reported high risk behaviors. In the ACASI format, respondents were more likely to report sharing drug 'works,' having unprotected sex while trading for drugs, money, or gifts, and (among male respondents) having male sex partners.

➤ This would suggest that to the extent that ACASI improves the implied extent of confidentiality, it will prove to be superior to methods that have been customarily used to gather data on sensitive and stigmatized behaviors. These are also the areas that are most problematic for those attempting to articulate a coherent public policy to address substance use and its attendant public health issues.

REFERENCES CITED

- Del Boca, F. K., & Noll, J. A. (2000). Truth or consequences: the validity of self-report data in health services research on addiction. *Addiction*, 95(3), S347-S360.
- Ghanem, K. G., Hutton, H. E., Zenilman, J. M., Zimba, R., & Erbelding, E. J. (2005). Audio computer assisted self interview and face to face interview modes in assessing response bias among STD clinic patients [Electronic version], *Sexually Transmitted Infections*, 81(5), 421-425.
- Greenberg, A. E., Magnus, M., & Kuo, I. (2008). *District of Columbia HIV/AIDS Behavioral Surveillance Summary Report*. George Washington University School of Public Health and Health Services, Department of Epidemiology and Biostatistics. Maryland Department of Health and Mental Hygiene, AIDS Administration. (2007) *Baltimore City HIV/AIDS Epidemiological Profile (Second Quarter 2006 – Data reported through December 31, 2007)*.