A Randomized Trial of Brief Assessment Interventions to Reduce HIV/STI Sexual Risk and Drug Use among Young Adults who Use Drugs in the Club Scene

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Background

Extensive polydrug use puts nightclub attendees at high risk for health problems, including HIV/STI; mental distress; and drug dependence.

There is pervasive resistance to participation in formal interventions. Club scene participants tend to be suspicious of or disinterested in drug use and sexual risk prevention messages delivered by governmental or health authorities.

Efficacious interventions to reduce sexual risk, drug use, and related consequences for this population are not apparent in the literature.

Purpose and Methods

RCT design: 3-armed intervention trial to examine differences in behavior change by type of assessment modality (self- vs. interviewer-administered) and compared to a waitlist control.

Hypothesis: Participants randomized to the computer-assisted personal interview (CAPI) and audio computer-assisted self-interview (ACASI) assessment intervention conditions would reduce their sexual risks and substance use more than those assigned to waitlist control.

Methods: Using respondent driven sampling, we recruited 750 heterosexually active men and women ages 18 to 39 who currently used club (e.g., cocaine, ecstasy, LSD) and prescription drugs (e.g., opioids, benzodiazepines), and regularly attended well known electronic dance music nightclubs in Miami, Florida.

Instrumentation: Participants were interviewed using a modified Global Appraisal of Individual Needs (Dennis et al. 2002) structured interview, which includes measures of demographics/environment, substance use and dependence, HIV/STI risk behaviors, and mental health.

Site: Miami, Florida (pop. 2.6 million) is 66.2% Hispanic, 18.9% Black and 14.8% White (U.S. Census, 2015), and is an international destination for partying, sexual tourism, and drug use.

Field staff were age peers of the study sample, extensively trained in the interview protocols.

Analysis

Primary outcomes: (baseline, 3-, 6-, and 12 months)
1. Past 90-day substance use frequencies
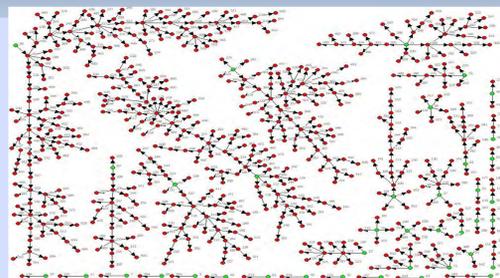2. Condomless anal/vaginal sex w/ casual partner frequency

Secondary outcomes: (baseline and 12 months)
1. DSM-IV substance dependence symptoms (range 1-7)
2. DSM-IV mental distress symptoms (range 1-25)
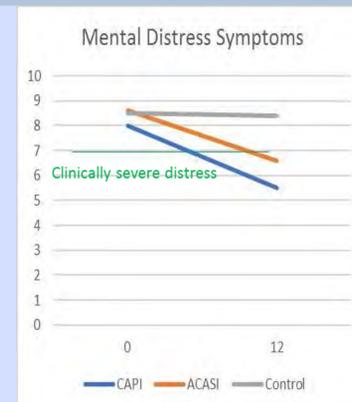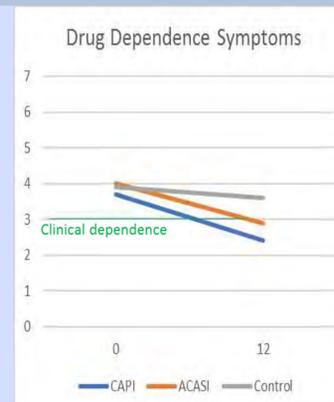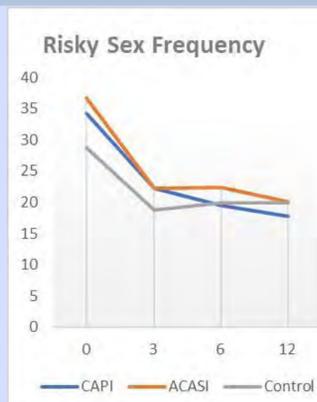3. Past 90 day substance use abstinence frequency

Analytic approach:
1. Intent-to-treat basis, including all data available at the four study intervals.
2. Effect size estimates (Cohen's d) of individual-level change and 95% confidence intervals.
3. Statistics reported are based on log-transformed measures.
4. Five hierarchical linear models (HLMs) were constructed to evaluate the efficacy of the interventions.
5. Models predicting primary outcomes included time, quadratic time, and time*arm interaction terms.
6. HLM models included contrast statements to determine effect size differences between arm conditions.

Results

RDS Enrollment 2011-2014

Risky Sex Frequency

Drug Dependence Symptoms — Clinical dependence

Mental Distress Symptoms — Clinically severe distress

CAPI   ACASI   Control

Multilevel model of longitudinal change in primary and secondary outcomes (N=750)

Effect size comparisons across conditions (d=Cohen's d)

Outcome measure	Club Drug composite frequency	Risky vaginal + anal sex frequency	Days without 5+A/D	DSM-IV Dependence symptoms	Mental Distress symptoms
CAPI vs. ACASI	d=0.1	d=0.2*	d=0.3**	d=0.2*	d=0.2*
CAPI vs. Control	d=0.2**	d=0.3***	d=0.4****	d=0.4****	d=0.3***
ACASI vs. Control	d=0.2**	d=0.1	d=0.2*	d=0.2**	d=0.1

Notes: *$p<.05$; **$p<.01$; ***$p<.001$; ****$p<.0001$; β=estimate; SE=standard error

Baseline characteristics of young adult multidrug users (N=750)		
Variable	N	%
Age (mean; SD)	25.4 (5.4)	
Gender female	329	43.9
High school graduate[a]	592	85.4
Race/ethnicity		
Hispanic	493	65.7
Black non-Hispanic	153	20.4
White non-Hispanic	87	11.6
Other	17	2.3
Sexual behaviors (past 90 days)		
Number of sex partners (mean; SD)	6.9 (13.3)	
Risky vaginal sex	439	58.5
Risky anal sex	195	26.0
Substance use (past 90 days)		
Alcohol	745	99.3
Marijuana	720	96.0
Cocaine	692	92.3
MDMA	726	96.8
Benzodiazepines	684	91.2
Rx opioids	552	88.3
Rx stimulants	366	48.8
LSD	338	45.1
Other hallucinogens	400	53.3
Methamphetamine	167	22.3
Comorbidities[a,b]		
DSM-IV substance dependence	477	68.9
Severe mental distress	354	51.2
Victimized before age 18	407	58.8

Notes: [a] 57 controls missing data (did not complete the 12 month assessment).
[b] One ACASI participant missing data.

Limitations

1. May not generalize to not-in-treatment young adults who use drugs in different contexts, have lower multidrug use, or are engaged exclusively in same-sex behaviors.

2. All data are based on self-report, and did not include drug use biomarkers.

Conclusions

➤ Our hypothesis was partially confirmed, as the CAPI intervention was superior to the control group.

➤ Substance dependence and mental distress symptoms were reduced to below clinically significant levels for CAPI participants.

➤ Contrary to our hypothesis, the ACASI condition showed lower efficacy, with small to non-significant effects compared to the control condition.

➤ Interpersonal interviewer interaction appears to improve participants' processing of assessment items, as well as provide a backdrop of empathy, tolerance, and openness.

➤ Although the CAPI modality may be more difficult to scale than ACASI, this study nevertheless demonstrates the efficacy of a single session intervention that is acceptable to the target group.

➤ We found no differences between the CAPI and ACASI arms on any measures of "sensitive" behaviors. Social desirability bias in face-to-face interviews (here, with non-professional age peers), appears to be context-dependent.

Acknowledgements

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