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Comparing Two Approaches to Acquiring HIV-Risk Data from Puerto Rican Women with Severe Mental Illness

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Abstract

Renewed interest has been expressed by researchers in mixed-method assessment that employs both quantitative and qualitative techniques in an expansive style that utilizes a variety of tactics to address research questions. Participants consisted of Puerto Rican women with severe mental illness living in Cuyahoga County, Ohio. The women were shadowed over a 2-year period to observe and verify behaviors that were self-reported using standardized instruments in semi-structured interviews. Concurrent criterion-related validity was employed to determine the extent of the correlation between responses obtained from the two approaches. Forty-four percent of the women were diagnosed with major depression and the mean overall GAF score was 58.5 ± 14.5 . A comparison of the data collected using the different methodologies revealed that inconsistent and contradictory responses are not uncommon. The mixed-method design provided a more complete way of obtaining HIV-risk behavior data. Researchers and clinicians could benefit from mixed methods research that can provide greater opportunities to obtain data of a sensitive nature.

Keywords

Mixed methods research; Severe mental illness; Puerto Rican; HIV-risk behaviors

Introduction

The principal goal of research methods should be to obtain useful answers to study questions [1]. Mixed methods research, defined as *the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study* utilizes multiple tactics in addressing questions and helps to minimize restrictions or constraints on investigators' choices [1]. Qualitative methods have been accepted as appropriate, legitimate, and even preferred for a wide range of evaluation settings [2–4]. Many evaluators have expressed renewed interest in mixed-method assessment that employs both quantitative and qualitative techniques because it is believed that this expansive style provides a diverse approach to thinking about and conducting research [1]. A recent article stated that a combination of qualitative and quantitative research methods can

provide a more “robust” understanding of mental health services than either method used alone [5].

Quantitative research is generally focused on deduction, confirmation, theory/hypothesis testing, explanation, prediction, standardized data collection, and statistical analysis [1]. The major characteristics of traditional qualitative research are induction, discovery, exploration, theory/ hypothesis generation, the researcher as the primary “instrument” of data collection, and qualitative analysis. Understanding the strengths and weaknesses of the two different styles of conducting research allows for a means to mix research methodologies in an effort to collect data using different strategies and approaches resulting in a combination with complementary strengths and nonoverlapping weaknesses [1].

Generally, mixed methods research designs involve either mixing qualitative and quantitative approaches within or across the stages of the research process or including a quantitative phase and a qualitative phase in an overall research study [1]. The mixed methods data analysis process incorporates data reduction, data display, data transformation, data correlation, data consolidation, data comparison, and data integration [6]. Data transformation, during which quantitative data are converted into narrative data that can be analyzed qualitatively (*qualitized* [7]) and/ or qualitative data are converted into numerical codes that can be represented statistically (*quantitized* [7]) represents an optional stage.

According to Johnson and Onwuegbuzie, mixed research solutions provide the best answers for many research questions and combinations of inquiries [1]. One such process involves the practice of *triangulation* which is the use of multiple methods, data sources, and researchers to enhance the validity of research findings [8]. Typically, triangulation is seen as a strategy for improving the validity of research or of evaluation findings that can help to eliminate bias and to dismiss possible alternative explanations such that a truthful proposition regarding a particular incident can be made [8].

Ethnography, often utilized in the practice of triangulation, comprises a range of qualitative research methods that aim to collect data that describe the way of life of a particular people. These methods aid in the understanding of prevalent norms and attitudes that could impact HIV prevention intervention strategies [9,10]. Adapted interventions may lack acceptability and sustainability if they are not based on a particular cultural setting [11,12].

Ethnographic methods serve an important function in HIV prevention research, generating a greater understanding of sexuality, sexual identity, and sexual risk behaviors [13]. Strategies employed can be critical to acquiring descriptive data in marginalized settings concerning sexual behavior and drug injection practices [13]. Ethnography has been employed extensively in the study of drug use and, more generally, in studies concerning social and cultural factors associated with increased vulnerability to HIV infection among ethnic minority populations [9,13]. Ethnographic approaches, through documentation and analysis, can expose aspects of reality characterized by stigma, discrimination, and denial and provide descriptions of social worlds that might otherwise not be found [13].

We compared the use of quantitative and qualitative approaches in a mixed methods study in the context of severe mental illness (SMI) and HIV-risk behavior in a population of Puerto Rican women. Researchers have questioned the ability of individuals to provide reliable self-reports of sexual behavior and they have questioned whether current measurement strategies reliably assess HIV related sexual information [14–16]. Although some recent research has shown that participants may be able to reliably report sexual information, these studies did not provide any information about the validity of these reports [17,18]. Given the importance of accurate accounts of sexual information and the lack of empirical reports examining reliability [18] and validity, more research concerning self-reported sexual information among all groups

is needed. Comparing quantitative data gathered using instruments with a qualitative ethnographic shadowing approach can reveal important findings concerning the most effective ways of obtaining HIV-risk behavior data of a sensitive nature [19]. The primary objective of this research was to assess the accuracy of data obtained qualitatively by comparing it to data obtained quantitatively in semi-structured interviews using criterion validity. The main hypothesis assumed that employing concurrent criterion validity to determine the extent of correlation between responses obtained using the two data collection methods would likely reveal large discrepancies and inconsistencies with an overall low correlation.

Methods

Participant Characteristics and Study Design

This report is part of a larger study that aimed to describe the HIV risk and prevention behaviors of Puerto Rican and Mexican severely mentally ill women ages 18–45 in Cuyahoga and San Diego Counties and the context in which these behaviors occurred. A subset of 27 Puerto Rican women from the overall sample recruited ($N = 53$) for which sufficient qualitative and quantitative data could be obtained is analyzed in this study. Criteria for participation included a diagnosis of major depression, bipolar disorder, or schizophrenia; Puerto Rican ethnicity; residence in Cuyahoga County; capacity and willingness to provide informed consent; and being female aged 18–50 years, inclusive, at baseline. Individuals were recruited between October 2002 and December 2005 through mental health facilities and community-based venues. Interested individuals were approached for their informed consent to participate in a baseline interview to assess eligibility. Eligible participants participated in an additional baseline interview, two follow-up semi-structured interviews, and 100 h of non-continuous participant observation (shadowing) by an ethnographer. No situations involving questionable capacity arose, and all study procedures were approved by the University Hospitals IRB. A certificate of confidentiality was obtained from NIH and all participants were made aware that it protected the information they provided from being accessed by law enforcement. Study participants received monetary compensation totaling \$65 for the interviews. No compensation was provided for shadowing.

The diagnosis of mental illness of all participants was obtained using the Structured Clinical Interview for Axis I DSM-IV Diagnoses (SCID) and was validated against medical records with the consent of the participants. Although this study was designed with a primarily qualitative approach, semi-structured interviews including close-ended, standardized instruments were conducted to assess substance use and HIV-risk behaviors quantitatively. Quantitative results obtained from validated, reliable instruments were verified against the qualitative data gathered by the ethnographers. Interviews were also conducted once a year for 2 years with two key informants for each participant that included the participants' mental health care provider and an individual designated by the participant who could provide information concerning the participant to research staff.

In this study, data reduction involved exploratory thematic analysis of the qualitative data and descriptive analysis of the quantitative data [6]. Data display involved describing the data pictorially using charts and networks for the qualitative data and tables and graphs for the quantitative data. During the data transformation stage, qualitative data were *quantitized* [7]. The data correlation stage involved qualitative data being correlated with any *quantitized* [7] data. Data comparison involved comparing data from the qualitative and quantitative data sources [6].

Qualitative Measures

Participants were shadowed over a 2-year period to observe and verify behaviors that were self-reported in interviews. Similar ethnographic methods have been used to evaluate or adapt HIV prevention interventions [11,12] and targeted ethnographic methods have been used in a population of adults with SMI to inform cultural translation and adaptation of existing US HIV prevention interventions in Brazil [20]. Shadowing included informal, tape-recorded visits with participants and their family members. All interviews and ethnographic observations were carried out by highly trained, bilingual staff.

Non-continuous participant observation included informal visits with the participant and attendance at a variety of activities such as church, doctor's appointments, court appearances, nightclubs, and family gatherings. Individual shadowing episodes generally lasted from 1 to 3 h. The study participant was aware in all situations of the ethnographer's research function. Ethnographers asked open-ended questions that focused on the following domains: sexual attitudes and behaviors, past and current drug use, HIV knowledge, past and current family and partner violence, religious beliefs and attitudes, family dynamics, socioeconomic factors, and cultural values. For some of the women, shadowing was terminated early for a variety of reasons including: moving out of the study area, being unreachable in prison or treatment centers, losing contact with the study staff, and reaching a plateau concerning information being acquired during observation episodes.

Quantitative Measures

HIV-Risk Behavior—Data obtained quantitatively and qualitatively for five HIV sexual-risk behaviors in the past 90 days were compared including number of sexual partners, anal sex, unprotected intercourse, intercourse while participant or partner was high on drugs and/or alcohol, and intercourse with an injection drug user (IDU). Similar measures have been used in previous studies to classify individuals as having high HIV-risk behavior [21–27]. Participants' relationships with their sexual partners were explored through specific questions using instruments during semi-structured interviews.

Drug-Use Behavior—Substance use and abuse were assessed using the Addiction Severity Index (ASI) which evaluates medical status, employment and support, drug use, alcohol use, legal status, family/social status, and psychiatric status [28]. The ASI has shown high concurrent and interrater reliability (.74 to .93) and validity and has been shown to be adequate when used in a mentally ill population [29,30].

Demographic Characteristics—Information including age at baseline, number of children, place of birth, primary language, marital status, education level, and employment status was gathered during the interviews and verified during shadowing.

Analysis

Qualitative—Most shadowing activities were tape recorded, transcribed in their original language, and translated into English. All study staff including the principle investigator and the data entry and analyst persons spoke Spanish. Meetings were held at which all staff members evaluated the accuracy of the translated data by studying both the transcribed and the translated material. Any disagreements concerning translation were resolved through a consensus process. Data were coded using Atlas.ti 5.0 software on an ongoing, line-by-line basis with each paragraph receiving as many codes as necessary to describe its contents. This approach allowed for an examination of the data for patterns, themes, and categories developed by the participants in response to open-ended questions [31]. The codes that emerged were developed into qualitative response categories. The coded qualitative data were quantified into the dichotomous variables 0 or 1 based on the absence or presence of each coded response

during the data transformation phase. The qualitative data were thus converted into numerical codes (*quantitized* [7]) that could be represented statistically in analyses. Data obtained using structured instruments and the *quantitized* [7] data obtained from shadowing were compared in statistical analyses using SAS version 9.1. Direct quotes from transcribed material were included to support *quantitized* [7] findings.

Quantitative—Concurrent criterion-related validity was employed to determine the extent of the correlation between responses obtained from shadowing episodes with those obtained in semi-structured interviews. Initially, frequencies were generated for each categorical variable to compare data obtained quantitatively with that obtained qualitatively. Since the variables were not normally distributed, the correlations between ordinal variables measuring the same behaviors obtained through the two different research methodologies were examined using Spearman's Correlation Coefficient. This measure of association is used with rank order variables which included the number of sexual partners and condom use in the past 90 days. For binary variables with less of a rank status (coded as either present or absent), the phi coefficient, a measure of the degree of association between two binary variables that is similar to the correlation coefficient in its interpretation, was used. Statistical significance was determined at the $\alpha = 0.05$ level.

Results

A sample of 27 Puerto Rican women comprised this study population. A little less than half (44.4%) were diagnosed with major depression (Table 1). The mean overall GAF score was 58.5 ± 14.5 . Participants ranged in age from 18 to 49 years ($M = 32.6 \pm 8.7$), and 44.4% had fewer than 12 years of education. More than two-thirds (70.4%) were unemployed at baseline. Just under two-thirds (59.3%) of the women spoke Spanish as a primary language (Table 1). The women were shadowed for an average 38.6 h (median = 35.0, range: 6–100).

In Table 2, quantitative and qualitative data responses are directly compared. In semi-structured interviews, 18.5% of the women said they had had between two and five sexual partners in the past 90 days compared with 55.6% of the women who said they had had that many partners in response to open-ended questions asked by ethnographers during shadowing. While 63% of the women told ethnographers during shadowing that they had engaged in anal sex, just 9.5% of the women said during interviews they had experienced anal sex. Compared to their responses during interviews a greater percentage of women stated during shadowing that they used condoms inconsistently or not at all, that they had had intercourse while high on alcohol or other drugs, and that they had had intercourse with an IDU in the past 90 days compared to their responses during interviews. Likewise during shadowing, more women also indicated that they had ever used substances including alcohol (74.1 vs. 11.1%), marijuana (66.7 vs. 29.6%), cocaine (40.7 vs. 18.5%), and crack (37.0 vs. 18.5%) compared with their interview responses (Table 2).

Correlation analyses revealed that participants' responses to questions concerning sexual behavior obtained in semi-structured interviews and during shadowing did not correlate significantly (Table 2). The single exception was the strong positive correlation between the women's responses to having sex with an IDU ($\phi = 0.69$, $P = 0.001$). With the exceptions of alcohol ($\phi = 0.21$, $P = 0.55$) and heroin ($\phi = 0.44$, $P = 0.08$), replies to questions concerning substance use during interviews and shadowing revealed significant strong positive correlations (Table 2).

In some cases, participants provided explanations for the discrepancies in their responses to interview and open-ended questions concerning sexual risk behaviors. One participant, for

example, described her experience talking about anal sex in the semi-structured interview to her ethnographer during shadowing as follows:

Participant (P): Listen, your boss talked to me about sex and everything.

Ethnographer (E): I know that interview is real intensive.

P: She asked me if I ever had a relationship through the butt (laughed).

E: What did you tell her?

P: No.

E: No, never?

P: Of course I have but I'm not going to tell her that.

That is intimate (we laughed). Are you crazy?

E: Why did you tell her?

P: I get embarrassed. No.

E: Why do you get embarrassed?

P: Because I do.

E: Is it because you really don't know her?

P: I don't have confianza con ella [confidence in her].

Participants answering questions about their own sexual behaviors, in many cases, gave conflicting answers in interviews and during shadowing. When asked about a sexual partner, one woman who said that she had not had anal sex during her interview told her ethnographer,

I didn't want to be with him because he would only do it from the back. I like people to look at my face. He never did it from the front. That bothered me because I thought he wanted a man.

The participant had referred to sex "from the back" as anal sex between two men in a previous conversation. In another instance, a participant who said that she had used condoms in the last 90 days, though not consistently, in an answer during her interview told her ethnographer when asked if she used protection when she had sex with her partner, "No, [we] never use protection. Yo se lo he dicho que si me pega una enfermedad yo lo mato [I have told him that if he gets me sick, I will kill him]."

Responses concerning alcohol use provided by participants during interviews were not significantly correlated to the answers they provided in open-ended questions during shadowing. One participant told her ethnographer, "I was destroyed, I got up early and walked to my sister's house. On my way to her house, I got a six pack of beer and drank it at my sister's house," after having denied ever drinking alcohol in a response to a question asked during her interview. When asked during shadowing what she had drunk over the weekend, another participant who had indicated in the quantitative instrument that she had never used alcohol told her ethnographer, "...[we] drank Corona, St. Ides, and Mudslides." When asked about drinking in the last 30 days, still another participant who reported that she had not ever drunk alcohol during her interview said during shadowing, "I don't drink like I used to, but I had one Sky Blue [vodka]."

Many of the references participants made to drug use in conversations with ethnographers during shadowing were consistent with responses provided during interviews. One participant who denied in response to questions contained in quantitative instruments that she had ever

used any drugs reported similarly during shadowing, “All my friends growing up used drugs except me...Because I saw them and how the drugs made them act and I did not want to be like that.” Another participant who responded that she had used weed (marijuana) when asked about it in an interview told her ethnographer that, “I like to smoke my weed after the bar. It mellows me out.” Similarly, the statement of another participant regarding her use of marijuana during a shadowing episode confirmed her report during her interview: “...I grew up in New York and in my family smoking weed was as common as smoking a cigarette. I had to stay away from my family in order to keep clean.” A participant who said she had used crack and heroin in response to questions asked during her interview responded to the ethnographer’s question, “Que fumabas [What did you smoke]?” by saying “Crack! Yo empecé con eso y después cocí la heroína [I started with that and then cooked heroin]” in a conversation during shadowing. Another woman talked about her use of heroin when questioned about it in her interview and while being shadowed. She told her ethnographer that she was, “back on heroin,” but, “was going to leave it and not do it anymore.”

However, this consistency between information provided to ethnographers during shadowing and that provided to the interview during more formal, structured interviews was not consistent across all participants. A participant who said she had not ever used crack in response to questions asked in her interview revealed in a conversation during shadowing that she had used the drug: “...At the time I was smoking crack but he never found out about this. He had heard rumors at the bar that I was smoking crack.” In another case, a participant who reported no marijuana use in quantitative measures during her interview told her ethnographer that, “We were brought up with weed. By the age of 12 I knew how to roll a blunt...I want to stop smoking. It doesn’t do anything for me.” Another participant who said she had not used alcohol or marijuana during her interview said, “I did smoke weed and drank with him...” when talking about her husband to her ethnographer during shadowing. Still another woman said in an interview that she had never used cocaine but later told her ethnographer, “When I told my son I wanted to have sex with him I was drunk and I used cocaine.”

Discussion

Comparing data collected qualitatively with data collected quantitatively provided insight into the efficacy of the two research methods used in this study. The correlations between quantitative and qualitative responses concerning the women’s sexual behaviors were not significant. Interview and shadowing responses to questions regarding whether the participants had ever had an IDU as a sexual partner correlated strongly. While answers to questions concerning alcohol use did not correlate significantly, participants’ responses to drug-use questions correlated strongly.

The conflicting answers obtained during data collection in this study can be explained by less frequently mentioned yet commonly occurring outcomes of triangulation. Although the commonly assumed goal of triangulation is agreement on a position or outlook concerning an observable fact, there are two other outcomes that might result [8]. One of these is inconsistency among the data. When multiple methods are employed, the data do not confirm a single occurrence or event; instead the evidence presents alternative propositions containing inconsistencies and ambiguities. For example, inconsistencies in this data were demonstrated in drug use reports. One participant reported in her interview that she had used cocaine and marijuana while she told her ethnographer, during shadowing, that she had used alcohol, marijuana, crack, and cocaine. Another outcome is contradiction. In this case, the data collected using more than one method contain opposing views of the incident under study. The value of triangulation shifts away from a potential solution for ensuring validity leaving investigators to construct plausible explanations regarding the inconsistencies and contradictions surrounding the events [8].

The inconsistent and conflicting data concerning sexual-risk behaviors and alcohol use gathered from the women in this study may be explained by certain cultural norms and expectations. The most common exposure for Latina women living with HIV/AIDS is high-risk heterosexual contact (69%) [32] as Latina women are most likely to be infected with HIV as a result of sex with men [33]. Fearing emotional or physical abuse or the withdrawal of financial support, in some cases Latina women may be more reluctant to discuss condom use with their partners [33]. *Marianismo*, the expectation that women are pure and will concede to men's desires and *simpatia*, the importance of nonconfrontational relationships, are two traditional gender roles that, when combined with sexual silence, can inhibit Latina women from discussing sexual issues and negotiating safe sex with male partners [34–36]. During semi-structured interviews, the participants may have answered questions with responses they thought were appropriate with respect to these cultural expectations and respondents' perceptions of what researchers might want to hear regarding sexual-risk behaviors. In discussions with their ethnographers, however, the women may have felt more comfortable about being open about their behaviors in the context of these cultural norms. For many of the women, alcohol use, like sex, was a current behavior that may not have been seen as culturally appropriate which could also help to explain the conflicting data.

The women in this study were more likely to provide consistent quantitative and qualitative answers about intercourse with an IDU. In 2003, IDUs accounted for 40.3% of AIDS cases diagnosed in the US among Latino men and 12.4% among Latino women [37]. Half (50%) of all AIDS cases in Puerto Rico can be accounted for by injection drug use [37]. The women may have been more comfortable talking about their IDU partners in the interview setting because they were not injecting drugs themselves. Since the prevailing percentages indicate that IDU is more common among Latino men, it is possible that IDU is a more acceptable behavior for men in this culture and Latina women may be more accustomed to seeing men engage in this behavior and not consider it as much of a taboo. The participants may have felt more comfortable discussing their own drug use during the interviews since in many cases it was not a current behavior.

In this study, reliance on a mixed-method design that included the practice of triangulation permitted the collection and analysis of qualitative responses over time. The ethnographers built up a rapport with the participants and were able to understand and respond to local situations and conditions in the participants' lives. Participants could discuss their experiences with the ethnographers in culturally appropriate contexts during lengthier shadowing episodes that took place in their own homes. The women were shadowed for an average of 25 h over a period of 2 years which provided ample time to discuss in greater detail sensitive subjects and to recall events in the past more thoroughly than what could be expected in a more formal interview setting. Ethnographers were able to ask questions concerning sexual and drug behaviors as part of on-going conversations. Responses to these questions were often embedded in longer, more involved stories of occurrences and events in the participants' lives which may lend credibility to their responses due to the more culturally appropriate method of obtaining data. Part of the oral tradition in Spanish speaking cultures involves giving “ejemplos” [examples] or anecdotes to illustrate a point [38]. “Dichos” or short phrases that depict Spanish proverbs or sayings are often used to communicate values and standards of behavior during daily conversations [39]. In giving examples and using common sayings, participants could explain and rationalize why they engaged in particular behaviors. While quantitative instruments may lack appropriate check boxes for such responses, participants may have had greater ease incorporating answers to the questions ethnographers asked them into these more culturally familiar formats.

Obtaining a certificate of security from NIH aided the ethnographers in their questioning of the participants during shadowing since they felt they could provide greater assurance to the

participants that the material they were discussing would remain confidential. This may have resulted in more open, honest, and complete answers given by participants in response to questions asked by ethnographers. The participants may also have been more at ease during shadowing visits that didn't take place in an office room with an interviewer sitting in front of them and committing them to a particular answer by marking an instrument.

It is important to consider how inconsistencies and contradictions in the data could be resolved. Interviews conducted with participants' health care providers, family members, and other key informants provided an additional mechanism by which to verify the participants' accounts of events and situations that they had related to the ethnographers. Ethnographers' own observations of participants during shadowing conducted at doctors' offices, hospitals, courts, and social service agencies, which the ethnographers recorded in their notes, often supported the accuracy of the participants' accounts. The ethnographers often asked the participants if they had any photographs or documents that related to the persons or events that they mentioned during shadowing encounters; these documentary materials, as well as participants' reflections that they had recorded in their journals contemporaneously with the events as they had occurred, served to substantiate further the participants' accounts. In some cases, previous medical records were available and the information provided currently by the participants to the ethnographers could be compared with the information that had been recorded in the medical chart at the time that a specific incident or event had transpired.

In future studies, toxicology and STD testing could be conducted to verify further participants' self-reports of behavior. Researchers could also design questionnaires that would provide answers to questions that could be observed during shadowing. For example, a participant could be asked in an interview how many times she sees a specific provider each week and this behavior could be verified by ethnographers during participant observation. A thorough review of all medical records, if obtainable, could provide further insight into and affirmation of risk behavior history.

To date, many studies that have assessed HIV-risk behaviors in minority populations with SMI have relied on data collected through self-reporting and one-time interviews [22,26,27,30, 40–51]. Despite using valid and reliable instruments, errors may have been introduced due to inaccurate and incomplete responses. Comparing quantitative instrument data with qualitative ethnographic data revealed important findings concerning various methods of obtaining HIV-risk behavior data of a sensitive nature. Limitations must also be considered when interpreting study results. Collecting information using quantitative and qualitative approaches introduced inconsistencies and contradictions in the data indicating that neither method may be entirely accurate or complete. Such results may call into question the validity of the two different methods. Resolving the discrepancies might require that another approach to obtaining this data be undertaken which could perpetuate such inconsistencies and lead to further contradictions.

Overall, this study provided a unique opportunity for a direct comparison of responses to questions obtained using qualitative and quantitative data collection techniques. Researchers could benefit from mixed methods research that can provide more opportunities to obtain data of a vulnerable nature. In African American and Native American cultures, oral tradition also has a rich history [52,53]. Similar methods could be adapted for use in other groups of individuals when conducting research to obtain risk behavior data.

Results from this study also have important clinical implications. Clinicians may question their patients in a manner that is more culturally familiar and acceptable, for instance by asking for an "ejemplo" of what the pain feels like, which could enhance the accuracy of reported symptoms and behaviors. A comparison of the acceptable method of obtaining data using

instruments with a qualitative shadowing approach revealed that inconsistent and contradictory responses are not uncommon and that the mixed-method design employed in this study provided a more complete way of obtaining HIV-risk behavior data.

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Table 1Demographic characteristics of severely mentally ill Puerto Rican women ($N = 27$)

Characteristic	Mean (SD)	N (%)
Age at baseline	33.4 (7.5)	
GAF score	58.5 (14.5)	
Number of children	2.9 (1.9)	
Education (years)	11.4 (2.5)	
Diagnosis		
Depression		12 (44.4)
Bipolar		10 (37.0)
Schizophrenia		5 (18.5)
Age at baseline		
18–29		8 (29.6)
30–39		13 (48.2)
40–49		6 (22.2)
Place of birth		
United States		5 (18.5)
Puerto Rico		22 (81.5)
Primary language		
English		5 (18.5)
Spanish		16 (59.3)
English and Spanish		6 (22.2)
Education		
Less than 12 years		12 (44.4)
Completed high school		6 (22.2)
More than 12 years		9 (33.3)
Marital status		
Never married		2 (7.4)
Married or living with partner		19 (70.4)
Divorced and separated		6 (22.2)
Number of children		
None		3 (11.1)
1–3		15 (55.6)
4–7		9 (33.3)
Employment status		
None		19 (70.4)
Part-time		3 (11.1)
Full-time		5 (18.5)

Table 2

Frequency data and correlations for risky sexual behaviors occurring over 90 days and lifetime drug use obtained quantitatively using a questionnaire and qualitatively during shadowing

HIV-risk behavior	Instrument responses <i>N</i> (%)	Qualitative responses <i>N</i> (%)	Spearman correlation coefficient (ρ), <i>P</i> -value
Number of sexual partners in past 90 days			0.05, 0.82
0 partners	6 (22.2)	1 (3.7)	
1 partner	16 (59.3)	7 (25.9)	
2–5 partners	5 (18.5)	15 (55.6)	
6–10 partners	0 (0.0)	3 (11.1)	
11+ partners	0 (0.0)	1 (3.7)	
Used condoms in past 90 days			–0.01, 0.97
Never	14 (66.7)	15 (55.6)	
Inconsistent use	2 (9.5)	12 (44.4)	
Always	5 (23.8)	0 (0.0)	
	Instrument responses <i>N</i> (%)	Qualitative responses <i>N</i> (%)	Phi coefficient (ϕ), <i>P</i> -value
Intercourse while participant and/or partner was high on alcohol or other drugs in past 90 days	4 (19.1)	20 (74.1)	0.27, 0.53
Engaged in anal sex in past 90 days	2 (9.5)	17 (63.0)	0.23, 0.53
Intercourse with injection drug user in past 90 days	4 (19.1)	10 (37.0)	0.69, 0.006
Lifetime substance use			
Alcohol	3 (11.1)	20 (74.1)	0.21, 0.55
Marijuana	8 (29.6)	18 (66.7)	0.46, 0.03
Cocaine	5 (18.5)	11 (40.7)	0.58, 0.006
Crack	5 (18.5)	10 (37.0)	0.62, 0.003
Heroin	5 (18.5)	3 (11.1)	0.44, 0.08