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The Impact of Homelessness on Recent Sex Trade among Pregnant Women in Drug Treatment

Qiana L. Brown, M.P.H., M.S.W.¹, Courtenay E. Cavanaugh, Ph.D.², Typhanye V. Penniman, Ph.D., M.P.H.¹, and William W. Latimer, Ph.D., M.P.H.¹

¹Department of Mental Health, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD, USA

²Department of Psychology, Rutgers University, Camden, NJ, USA

Abstract

This study is a secondary data analysis aimed to examine the influence of recent homelessness on recent sex trade among pregnant women in drug treatment after controlling for psychiatric comorbidity, age, education, and race. Eighty-one pregnant women from a drug treatment program in Baltimore, Maryland attended an in-person interview and completed the Structured Clinical Interview for Diagnostic and Statistical Manual for Mental Disorders-IV for Axis I disorders, the HIV Risk Behavior Interview, and demographic questionnaires, which assessed psychiatric symptoms, recent homelessness, and sexual risk behavior respectively. Women who experienced recent homelessness had a 4.74 greater odds of having recently traded sex than women who had not been recently homeless, suggesting that homelessness uniquely influences sex trade beyond psychiatric status, which was also a significant correlate of recent sex trade. Addressing both homelessness and psychiatric problems may effectively reduce sex trade and risk for infectious diseases, which could adversely impact maternal and child health outcomes.

Introduction

According to the Center for Disease Control and Prevention WISQARS report in 2007 (Prevention, 2007b), HIV is among the 10 leading causes of death for women 25 to 54 years old in the United States. During pregnancy, health consequences of HIV and other infectious diseases are detrimental to both mother and child (Anzivino et al., 2009; Chopra et al., 2010; Florida et al., 2008; Force, 2007; Jean et al., 1999; Prevention, 2007a; Siza, 2008). Vulnerable populations such as pregnant women with drug dependence are at increased risk for such diseases via sex-trade, as thirty-one percent of pregnant women in drug treatment were found to have recently traded sex for money or drugs (Cavanaugh & Latimer, 2010). Given the high rate of recent sex trade among this population, which increases risk for

Address all correspondences to: Qiana L. Brown, M.P.H., M.S.W., Johns Hopkins University, Bloomberg School of Public Health, Department of Mental Health, 2213 McElderry Street, 4th floor, M437, Baltimore, MD 21205, United States, Phone: 410-245-1993, Fax: 877-715-4634, qbrown@jhsph.edu.

Contact information for co-authors, Courtenay E. Cavanaugh, Ph.D., Rutgers University, Camden Campus, Department of Psychology, 311 North Fifth Street, Office #307, Camden, NJ 08102, United States, Phone: 856-225-6120, Fax: 856-225-6602, cocavana@camden.rutgers.edu

Typhanye V. Penniman, Ph.D., M.P.H., Johns Hopkins University, Bloomberg School of Public Health, Department of Mental Health, 2213 McElderry Street, 4th Floor, M433, Baltimore, MD 21205, United States, Phone: (410) 502-9509, tpennima@jhsph.edu
William W. Latimer, Ph.D., M.P.H., Johns Hopkins University, Bloomberg School of Public Health, Department of Mental Health, 624 N. Broadway, Hampton House, 880, Baltimore, MD 21205, United States, Phone: 410-206-5805, Fax: 410-955-0237, wlatimer@jhsph.edu

Declaration of Interest

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infectious diseases that would adversely impact the health of mothers and their fetuses, understanding the underlying mechanisms that influence sex trade is essential for informing effective infectious disease prevention interventions. Meeting subsistence needs such as finding housing is a potential driving mechanism of sex trade among this population of women that warrants further attention. When vulnerable populations of women, such as those who abuse substances, are faced with meeting immediate survival needs such as securing shelter, finding financial resources, and ensuring safety for themselves and their children they may resort to survival sex (Greene et al., 1999), or prostitution (Malow et al., 1996) to meet these needs and their attention is diverted away from reducing HIV risk behaviors (Mays & Cochran, 1988).

Homelessness is one particular factor that may influence women's involvement in sex trade. Pregnant women in drug treatment may turn to sex trade as a means to survive, which includes finding a safe and adequate living space. Homelessness is prevalent among pregnant women in drug treatment (Kissin et al., 2001; Tuten et al., 2003), and is interrelated with psychiatric comorbidity (Cavanaugh & Latimer, 2010; Eggleston et al., 2009). Thirty-nine percent of pregnant women in treatment for drug dependence reported being homeless in the previous three years (Kissin, et al., 2001), fifty-nine percent had a lifetime comorbid non-substance related psychiatric diagnosis (Cavanaugh & Latimer, 2010), and forty-one percent had at least one current comorbid non-substance related psychiatric diagnosis (Eggleston, et al., 2009). Furthermore, having a psychiatric comorbidity among this population has been associated with six times the odds of engaging in recent sex trade (Cavanaugh & Latimer, 2010) and both psychiatric comorbidity and sex trade were associated with increased risk for sexually transmitted infections among pregnant women in treatment for cocaine and heroine dependence (Cavanaugh et al., 2010). The current study is the first, to our knowledge, to examine the influence of both homeless and psychiatric comorbidity simultaneously in relation to sex trade among pregnant women in drug treatment. Previous literature has examined homeless or either psychiatric comorbidity separately in relation to sex trade. The purpose of this study was to examine the influence of recent homelessness on recent sex trade among pregnant women in treatment for drug dependence, after controlling for psychiatric comorbidity, age, education, and race. We hypothesized that in an adjusted model both recent homelessness and psychiatric comorbidity would be positively and significantly associated with women's involvement in sex trade during the previous six months.

Methods

Participants and Procedures

Baseline data from a parent study by Cavanaugh and Latimer (2010), aimed to adapt an integrated family and cognitive-behavioral HIV prevention intervention (IFCBT-HIVPI) manual for use with pregnant women in drug treatment was used in the current study. The parent study focused on the cross-sectional relationship between psychiatric comorbidity and risk for infectious disease among pregnant women in treatment for drug dependence. The parent study revealed that having ever been diagnosed with a psychiatric comorbidity was associated with six times the odds of having had traded sex in the past 6 months, which has implications for increased risk of infectious disease (Cavanaugh & Latimer, 2010). The Johns Hopkins University Institutional Review Board approved the parent study. Inclusion criteria for the parent study were no pregnancy complications, no fetal malformation, no significant maternal health problems unrelated to pregnancy (e.g., HIV infection), free of psychosis, and no acute suicidal ideation. Participants who met inclusion criteria and consented to participate in the parent study attended an in-person interview where they completed the Structured Clinical Interview for Diagnostic and Statistical Manual for Mental Disorders-IV (SCID-IV-TR) for Axis I disorders, the HIV Risk Behavior Interview,

and demographic questionnaires, which assessed psychiatric symptoms, recent homelessness, and sexual risk behavior respectively. The SCID-IV-TR was administered by trained interviewers. There were four different interviewers, and they all had had previous experience with psychological assessment and underwent extensive SCID-related training. Interviewers were under clinical supervision from a PhD-level professional. To ensure inter-rater reliability, interviewers were observed regularly and each assessment was reviewed with the clinical supervisor. Participants were interviewed between 2006 and 2008. One hundred and thirty-seven participants were screened for the parent study, 56 participants were excluded who did not complete the SCID-IV-TR. Of the 81 remaining participants, there were no missing data. The current study was restricted to the 81 women who completed assessments regarding their mental health diagnoses as the goal was to evaluate the impact of homelessness on women's recent sex trade behavior after controlling for confounding variables including psychiatric comorbidity.

Measures

Sex Trade (outcome measure): Participants who reported having traded sex for drugs, money, shelter, or other during the past six months were coded as "1", otherwise they were coded as "0". **Homelessness (primary predictor of interest):** Women were asked 'Have you been homeless in the last six months?' Those who reported no were coded as '0' while those who reported yes were coded as '1.' A person was considered homeless if they did not have documented evidence of their housing status, such as having their name on a deed, rental agreement, or lease for housing. **Other demographic variables:** Participants were also asked to report their age, the last grade they finished in school and to describe their racial/ethnic background. Age was left as a continuous variable and two dichotomous variables were created to distinguish between participants with (coded as 0) or without a high school education or equivalent (e.g., GED) (coded as 1) and who were white (coded as 1) or non-white (coded as 0). **Psychiatric Comorbidity:** The SCID-IV-TR was used to assess lifetime and past month Axis I disorders including substance abuse, mood and anxiety disorders. This sample's lifetime Axis I disorders have been reported in the parent study (Cavanaugh & Latimer, 2010). A dichotomous variable representing mental health comorbidity was created to distinguish between women with a lifetime comorbid non-substance use related disorder (e.g., major depressive disorder, anxiety disorder, etc.; coded as 1) and otherwise coded as 0.

Data Analysis

Data analyses were done using SPSS-17 and Stata/SE statistical software version 10.0. This study was restricted to participants in the parent study who completed the SCID-IV-TR (N=81) and none of these participants were missing data on variables included in the final model. Descriptive statistics were used to compare homeless status and drug dependence. Chi-square analyses were used to assess differences in homeless status based on sample characteristics to include race/ethnicity, education, and psychiatric comorbidity. Simple and multiple logistic regressions were used to assess the univariate and multivariate associations between correlates of recent sex trade including recent homelessness. Tolerance values ranged from 0.76–0.88 and VIF values ranged from 1.12–1.32. Because tolerance values were not less than 0.10 and the VIF values were not above 10 and no correlations among variables were above .9, suggest the assumption of multicollinearity was not violated (Pallant, 2007).

Results

In this secondary data analysis, participants were between 18–43 years old and predominately African-American (60.5%) with less than a high school education (55.6%).

Twenty-five women (31.0%) traded sex in the previous six months. The majority of the women traded sex at some point during the previous six-months for survival needs such as shelter or money, or either for something other than drugs, while only 3 (12.0%) traded sex for drugs only. Twenty-one (26.0%) women reported having been homeless in the previous six months. Fifty-five women (67.9%) met criteria for a past month substance use disorder. Cocaine and opioid use disorders were the most common current substance use disorders (Table 1). More information regarding this samples psychological diagnoses, including lifetime substance use disorders can be found in the parent study (Cavanaugh & Latimer, 2010). Chi-square statistics (not shown) were used to assess differences in homeless status according to race/ethnicity, education, and psychiatric comorbidity. No significant differences were found between recent homelessness and women's education status or race/ethnicity. However, there was a trend ($p<.10$) for recent homelessness to be positively associated with women's history of psychiatric comorbidity.

Simple logistic regressions were used to determine the unadjusted odds ratios and 95% confidence intervals (Table 2). Recent homelessness and psychiatric comorbidity were both significantly and positively correlated with recent sex trade behavior. A multiple logistic regression was used to test these correlates of recent sex trade simultaneously and to obtain adjusted odds ratios and 95% confidence intervals (Table 2). Both recent homelessness and lifetime psychiatric comorbidity significantly increased the odds of women's recent sex trade behavior in the adjusted model (Table 2).

Discussion

Sex trade is a high-risk sexual behavior that places many women at risk for contracting HIV and other infectious diseases (Booth et al., 1993; Elwood et al., 1997; Strathdee et al., 2001) and the risks for pregnant women who engage in sex trade are costly for both mother and fetus. The majority of the women in this secondary data analysis, traded sex at some point in the previous six months for survival needs such as shelter or money, or for something other than drugs. These findings suggest that homelessness is a significant driving mechanism of sex trade among this population of women, even after accounting for psychiatric comorbidity. Furthermore, this study reveals that drug acquisition is not the motivating factor behind sex trade in this group of women, as the majority (88%) of women who participated in sex trade, traded sex for something other than drugs.

An integral step in reducing risk for sex trade and thus risk for HIV and other infectious diseases in both mother and child is providing stable and adequate housing for pregnant drug dependent women after treatment. Improvements in housing status within six to nine months resulted in approximately half the odds of engaging in drug use, needle use, needle sharing, and unprotected sex as compared to no change in housing status (Aidala, 2005). Contrarily, a worsening of housing status during this time was associated with over five times the odds of sex trade for drugs, money, or a place to stay as compared to no change in housing status (Aidala, 2005). Proper housing also has implications for treatment retention. Pregnant women in treatment for drug dependence who were homeless were only enrolled in treatment seventy percent as long as domiciled women (Tuten et al., 2003). Furthermore, stable housing encompasses a multitude of characteristics that positively affect family well-being and thus child development (Bratt, 2002), while unstable housing (i.e. homelessness) is associated with higher incidence of sexually transmitted infections for adolescent females (Noell et al., 2001), and nearly a five times higher odds of pregnant women in treatment for drug dependence engaging in sex trade as compared to no history of recent homelessness, as indicated in the current study.

A major strength of this study is that it is the first, to our knowledge, to examine the impact of recent homelessness on recent sex trade, after controlling for psychiatric comorbidity and other covariates among a particularly high risk group of pregnant women in drug treatment at risk for HIV and other infectious diseases. A paucity of research exists examining HIV risk behaviors and their underlying mechanisms in this unique group of women, so this study helps build the knowledge base in this area. Additionally, the majority of women in the study were African-American. This is significant because African-American women account for two-thirds of the women in the United States who are infected with AIDS (U.S. Department of Health and Human Services Office of Women's Health, 2010), therefore the findings from this study can potentially lend to tailored interventions to decrease this disparity among African-American women. Implications from this study must be interpreted in light of important limitations to include the cross-sectional nature of the study design, which does not allow for causal inferences. Additionally, the primary study for which data was collected did not collect information on women's gestational age at the time of the interview – as the purpose of the primary study was to adapt an IFCBT-HIVPI for use with pregnant women. Thus, information collected focused on HIV risk behavior, substance use, and mental health disorders. Therefore, we were unable to control for gestational age in this study. However, this study does provide insight on how homelessness influences HIV risk behaviors circa pregnancy for drug dependent women, which may lend to tailored interventions during this time to promote better health for both mother and child. Furthermore, the small sample size limits generalizability of the findings, though this study does provide a preliminary understanding of the influences of homelessness on sex trade after controlling for psychiatric comorbidity, age, education, race/ethnicity among pregnant women in treatment for drug dependence. Lastly, this study may not be generalizable to pregnant women with drug dependence who are not in treatment.

Conclusion

Homelessness has a unique influence on sex trade above and beyond psychiatric status. HIV and other infectious disease prevention interventions must address both homelessness and psychiatric problems among pregnant women in drug treatment in order to effectively reduce involvement in sex trade and risk for HIV and other infectious diseases among this population of women so to improve health outcomes of both mother and child.

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Table 1

Past Month Substance Use Disorders (N=81)

	N (%)
Cocaine Use Disorder	46 (56.8)
Opioid Use Disorder	43 (53.1)
Alcohol Use Disorder	8 (9.9)
Cannabis Use Disorder	8 (9.9)
Polydrug Use Disorder	8 (9.9)
Sedative Use Disorder	5 (6.2)
Stimulant Use Disorder	1 (1.2)

Table 2

Logistic regression model of the association between recent homelessness and recent sex trade (N=81)

	Number of Participants	Percent Traded Sex Trade Past 6 Months	Unadjusted		Adjusted	
			Odds	95% Confidence Interval	Odds	95% Confidence Interval
Age						
Total	81	30.9	1.10 *	1.00–1.20	1.05	0.94–1.18
Race/Ethnicity						
Not White	51	33.3	1.0	--	1.00	--
White	30	26.7	0.73	0.27–1.97	0.64	0.16–2.56
Education						
High School Graduate	36	30.6	1.0	--	1.00	--
Not a High School Graduate	45	31.1	1.03	0.40–2.65	0.79	0.24–2.60
Lifetime Psychiatric Comorbidity						
Absence	33	12.1	1.0	--	1.00	--
Presence	48	43.8	5.64 **	1.71–18.55	5.41 *	1.48–19.78
Homeless in past six months						
No	60	20.0	1.00	--	1.00	--
Yes	21	61.9	6.50 **	2.20–19.22	4.74 *	1.42–15.85

**
 $p < .01$;*
 $p < .05$

Of the Not-White group the majority of participants were African-American (n=49); Asian (n=1); and Native-American (n=1)