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Suicidal Ideation Among Drug-Dependent Treatment-Seeking Inner-City Pregnant Women

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Abstract

The current retrospective study compared the psychiatric and lifestyle characteristics of two groups of treatment-seeking pregnant, opiate and/or cocaine dependent women admitted to the Center for Addiction and Pregnancy (CAP). Women reporting past and/or current suicidal ideation (SI) (46%; $n = 35$) were compared to women who did not report thoughts of suicidal ideation (NSI) (54%; $n = 41$). SI women were more likely to be homeless ($p = .020$), to report histories of emotional ($p = .022$), physical ($p < .001$), sexual abuse ($p = .002$) and psychiatric treatment ($p < .001$), and less likely to be married ($p = .024$) than NSI women. Psychiatrically, SI women were more likely to have co-morbid current and lifetime disorders than NSI women. These findings highlight the need to identify women with histories of suicidal ideation, recognize the potential relapse risk imposed by emotional distress, and confront these issues in treatment.

Keywords

Drug abuse; pregnancy; suicide; treatment; gender

INTRODUCTION

Suicide is a major public health problem in the United States. Much attention has been focused on identifying the risk factors of suicide in non-pregnant individuals. Suicide risk factors are numerous and include co-morbid mood and/or substance use disorders (Wilcox, Conner, & Caine, 2004; Phillips, Carpenter, & Nunes, 2004; Harris, & Barraclough, 1997;

Aharonovich, Liu, Nunes, & Hasin, 2002; Dhossche, Meloukheia, & Chakravorty, 2000; Tondo, 1999), homelessness (Eynan, Langley, Tolomiczenko, Rhodes, Links, Wasylenki, & Goering, 2002), marital separation or divorce (Kposowa, 2000), lifetime sexual or physical abuse or assault (Ullman, 2004; Bartholomew, Rowan-Szal, Chatham, Nucatola, & Simpson, 2002), exposure to early trauma leading to a diagnosis of Post Traumatic Stress Disorder (Gladstone, Parker, Mitchell, Malhi, Wilhelm, & Austin, 2004), unemployment (Blakely, Collings, & Atkinson, 2003; Kposowa, 2003), low education and low socio-economic status and income (Kessler, Borges, & Walters, 1999). In contrast to the wealth of research focused on non-pregnant individuals, little research has focused on the report of suicidal ideation among pregnant substance abusers. This subpopulation of women deserves special attention given the potential impact of emotional distress on both the mother and the fetus. The present study sought to compare substance abusing pregnant women with and without a history of suicidal ideation.

Substance-abusing pregnant women often enter drug treatment with multiple risk factors for suicide. For example, substance dependence during pregnancy has been shown to be associated with comorbid mood disorders, homelessness, previous abuse (i.e., physical, sexual, and/or emotional abuse), unemployment, (Kissin, Svikis, Morgan, & Haug, 2001; Jansson, Svikis, Lee, Paluzzi, Rutigliano, & Hackerman, 1996; Finnegan, 1991), childhood sexual trauma, (Hill, Boyd, & Kortge, 2000) and post-traumatic stress disorder (PTSD) (Moylan, Jones, Haug, Kissin, & Svikis, 2001). Although previous studies have examined the relationship between suicidality and substance abuse in pregnant women, none have focused exclusively comparing drug dependent pregnant women with and without suicidal ideation. Thus, the purpose of the present study was to compare the psychiatric and psychosocial characteristics of treatment-seeking, drug-dependent, pregnant women who reported past and/or current suicidal ideation (SI) with the characteristics of women who did not report past and/or current suicidal ideation (NSI).

METHOD

Participants

Participants were 76 pregnant opioid (87%) and/or cocaine (67%) dependent women enrolled in the Center for Addiction and Pregnancy (CAP), a comprehensive care drug treatment program located on the Johns Hopkins Bayview Medical Center campus that services a predominantly inner-city urban population. Over half (64%) received methadone pharmacotherapy as a therapeutic adjunct. These women were predominately African American (75%), single (80%), and unemployed (95%), with a mean age of 31 years ($SD = 5.3$) and education of 11 years ($SD = 1.8$). This sample included women reporting past and/or current suicidal ideation (determined via Addiction Severity Index or Structured Clinical Interview for DSM-IV) ($n = 35$) and women reporting no past or current suicidal ideation ($n = 41$) (see Table 1). Participants were women taking part in a larger behavioral research study while attending treatment at CAP between April 4, 2000 and December 13, 2000. The study was approved by the Johns Hopkins Bayview Institutional Review Board for human research; volunteers gave written informed consent and were compensated for their participation.

Procedures/Instruments

All research participants completed an intake assessment battery during their first seven days of residential treatment and following stabilization on methadone and minimal signs of withdrawal. All assessments were administered by a group of similarly trained staff in the respective treatment settings. The assessment battery included the Addiction Severity Index—Fifth Edition (ASI; McLellan, Kushner, Metzger, Peters, Smith, Grissom, Pettinati, &

Argeriou, 1992) and the Structured Clinical Interview for DSM-IV Axis I Disorders, Research Version (SCID-I; First, Gibbon, Spitzer, Williams, 1996).

The ASI is a standardized semi-structured clinical interview for assessing psychosocial severity in seven potential problem areas (Medical, Employment, Alcohol, Drug, Legal, Family/Social, and Psychological). There is a body of literature demonstrating good reliability and validity of the standard Fifth Edition of the ASI (see Leonhard, Mulvey, Gastfriend, & Shwartz, 2000 for review).

The SCID-I is a structured clinical interview that assesses lifetime and current DSM-IV Axis I psychiatric disorders. The SCID-I was used to make current (within the past 12 months) DSM-IV drug dependence diagnoses for opioids, cocaine, and alcohol; and to make current and lifetime mood disorder diagnoses. Previous assessments of the reliability and validity of various structured and semi-structured DSM-IV substance use disorder diagnostic interviews indicates very good reliability and validity for dependence diagnoses (Üstün, Compton, Mager, Babor, Baiyewu, Chatterji, Cottler, Gögüs, Mavreas, Peters, Pull, Saunders, Smeets, Stipek, Vrasti, D. Hasin, Room, Van den Brink, Regier, Blaine, Grant, Sartorius, 1997; Feingold & Rounsaville, 1995). Reliability of the mood disorder diagnoses assessed via the SCID-I ranges from good to fair inter-rater agreement. Kappa values for the mood disorder diagnoses range from .88 for Post Traumatic Stress Disorder, .80 for Major Depression, .76 for Dysthymic Disorder, and .63 for Generalized Anxiety Disorder (Zanarini, Skodol, Bender, Dolan, Sanislow, Schaefer, Morey, Grilo, Shea, McGlashan, & Gunderson, 2000). Adapted versions of the SCID-I have also demonstrated cross-cultural utility in identifying mood disorders in women during pregnancy and post-partum (Gorman, O'Hara, Figueiredo, Hayes, Jacquemain, Kammerer, Klier, Rosi, Seneviratne, Sutter-Dallay, & TCS-PND Group, 2004).

Interviewer Training

Didactic training on both the ASI and SCID-I was provided regarding the intent and purpose of each item on both instruments. Interviewers were also required to view training videotapes provided by the test makers of both interviews. A two-step training approach was used to ensure inter-rater reliability. This approach involved the trainee observing and co-rating five or more consecutive interviews administered by an expert interviewer, followed by the trainee conducting at least five consecutive interviews that are co-rated by the expert interviewer with one-hundred percent inter-rater agreement.

Data Analysis

Odds ratios (ORs) and 95% confidence intervals (CI) were calculated to estimate the odds of membership in the SI versus the NSI group across the various demographic, psychosocial, and drug use characteristics. The reference category for ORs on dichotomous ("yes" versus "no") variables was the negative response. Age was dichotomized as over or under 30 years of age and education as above or below a twelfth grade education. Logistic regression was used to compare individuals with and without suicidal ideation for all variables. Probability values were calculated using Pearson's chi-square statistic, and were considered significant at $p < .05$. All data analyses were conducted using SPSS version 12.0.0 for Windows.

RESULTS

Demographics

As shown in Table 1, the two groups did not differ in age, education levels, employment status, race, or substance dependence. Women did differ with respect to marital status, such

that women reporting NSI were about 4 times more likely to be married than women in the SI group.

Psychosocial, Drug Use and Psychiatric Characteristics

As shown in Table 1, women reporting past and/or current suicidal ideation (SI) presented to treatment with more severe problems in a variety of life areas. SI women were seven times more likely than NSI women to be homeless. SI women had more severe co-morbid substance abuse problems than did NSI women. They were significantly more likely to be currently dependent on cocaine and diagnosed with comorbid mood and drug or alcohol dependence diagnoses than those in the NSI group. Women with SI reported significantly higher rates of emotional, physical and sexual abuse compared to women who did not report suicidal ideation. The SI group was also more likely to be diagnosed with Major Depression, have PTSD (current or lifetime) and previously received psychiatric treatment than the NSI group.

DISCUSSION

Out of a sample of 76 pregnant drug-abusing women, 46% ($n = 35$) reported suicidal ideation; which is three-and-a-half times greater than what has been reported in the general population of treatment-seeking, drug-dependent adults (Chatham, Knight, Joe, & Simpson, 1995). The alarming rate of suicidal ideation in this population clearly indicates a need for specialized interventions to address the psychosocial impairment of pregnant women entering drug treatment.

Housing instability was striking among the SI group, and this finding is similar to results previously reported from work done at this facility (Tuten, Jones, & Svikis, 2003) and extends previous work in non-pregnant individuals which reported homelessness as a risk factor for suicide (References from intro).

The higher incidence of co-morbid cocaine, multiple drug dependencies and psychiatric diagnoses among SI women indicates a need for psychiatric evaluation and treatment, including medications. These findings are also consistent with, and extends to pregnant populations, studies showing that the co-occurrence of mood and substance use disorders puts patients at greater risk of suicide than does either a mood or substance use disorder alone (Aharonovich, Liu, Nunes, & Hasin, 2002; Dhossche, Meloukheia, & Chakravorty, 2000; Tondo, 1999).

The results showing greater rates of victimization in women with suicidal ideation support previous studies linking a history of physical and sexual abuse with suicidal ideation during pregnancy (Farber, Herbert, & Reviere, 1996) and expands these findings to a substance abusing pregnant population and to include emotional abuse. The results of this study showing greater rates of PTSD in women with SI also supports previously reported findings between suicidal ideation and PTSD among pregnant drug dependent women (Tuten, Jones, Tran, & Svikis, 2004; Moylan, Jones, Haug, Kissin, & Svikis, 2001).

Limitations

For complete interpretation of the results, some limitations should be noted. First, the results of this study are limited in their generalizability to other populations (non-treatment seeking, non-pregnant drug-using populations). Second, research suggests that the ASI may underestimate the prevalence of physical and sexual abuse (Langeland, Draijer, & van den Brink, 2003; Langeland, van den Brink, Draijer, & Hartgers, 2001). Third, by virtue of their selection to enroll into a comprehensive care drug treatment program, this sample may represent a more severe group of women. Fourth, the absence of DSM-Axis II data

precludes comparison to other studies examining associations between Borderline Personality Disorder, substance use, and suicidal ideation (Welch, & Linehan, 2002; O'Boyle, & Brandon, 1998). Fifth, it is unclear what role the potential stress of pregnancy (unplanned vs. planned) plays in the report of suicidal ideation, which is something that should be examined more closely in future research. Finally, as with other studies that rely on self-report, response bias could lead to an underestimation of the true prevalence of suicidal ideation in this population; however, the fact that significant differences were found increase the confidence that these are important and robust findings.

CONCLUSIONS

Based on data collected as part of the National Comorbidity Survey (NCS), among non-drug using adults in the U.S., it is estimated that the lifetime prevalence of suicidal ideation is 13.5%. Of this group, it is estimated that 90% of unplanned suicide attempts and 60% of planned first attempts will occur within one year of suicidal ideation (Kessler, Borges, & Walters, 1999). Among substance abusers, current substance use puts individuals at even greater risk for unplanned suicide among those with suicidal ideation (Borges, Walters, Kessler, 2000). Given that the present sample reported suicidal ideation at a rate three-and-a-half times greater than in the general population of treatment-seeking, drug-dependent adults (Chatham, Knight, Joe, & Simpson, 1995), this provides a compelling marker for the scope of the problem.

The present findings support a strong association between suicidal ideation and impairment in psychosocial functioning in this population and suggest that drug treatment programs should identify women who may be at risk for suicidal ideation and/or attempts (Rossow, & Lauritzen, 1999; Magruder-Habib, Hubbard, & Ginzbury, 1992). Early identification of this highly impaired sub-group of treatment seeking substance dependent pregnant women may improve both the maternal and child outcomes. However, benefits will only be gained if more focused and intensive clinical attention is provided, such as services addressing psychiatric and lifestyle problems. Future research should examine whether suicidal ideation is an indication of poor treatment outcomes for pregnant, drug-dependent women. Furthermore, suicidal ideation should be assessed on a regular basis to determine whether the symptoms remit as treatment progresses and abstinence is maintained. Emphasis should be placed on ensuring that women reporting suicidal ideation are monitored and given appropriate psychiatric treatment referrals. Interventions designed to alleviate suicidal thoughts could also impact treatment retention and success.

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TABLE 1

Study Participant Demographic, Psychosocial, and Psychiatric Characteristics

	Suicidal Ideation (n=35)		No Suicidal Ideation (n=41)		OR (95% CI) ††	p value*
	%	n	%	n		
<i>1</i> Age						
≥30 years of age	57	20	56	23	1.08(0.43,2.74)	.866
<i>2</i> Education						
Less than 12 years	49	17	42	17	1.33(0.54, 3.31)	.535
<i>3</i> Unemployed	93	33	95	39	2.43(0.44, 13.39)	.309
<i>4</i> Married	11	4	27	11	4.24(1.21, 14.86)	.024
<i>5</i> Race:						
African American	71	25	78	32	0.69 (0.23, 2.06)	.511
Methadone Maintenance	58	19 ^a	69	27 ^b	0.60(0.23, 1.59)	.307
Homelessness	26	9	5	2	6.75(1.35, 33.79)	.020
Current Drug Dependence:						
Alcohol	42	14 ^a	33	13 ^b	1.47 (0.56, 3.84)	.428
Opioid	79	26 ^a	95	37 ^b	0.20 (0.04, 1.04)	.056
Cocaine	82	27 ^a	54	21 ^b	3.86 (1.30, 11.42)	.015
<i>6</i> Multiple	79	26 ^a	61	26 ^b	1.86 (0.64, 5.40)	.256
Lifetime Abuse						
Emotional	77	27	51	21	3.21 (1.18, 8.73)	.022
Physical	74	26	29	12	6.98 (2.53, 19.24)	.000
Sexual	46	16	12	5	6.06 (1.92, 19.11)	.002
Past or Current Diagnosis						
Major Depression	73	24 ^a	38	15 ^b	4.27 (1.57, 11.62)	.005
<i>9</i> Anxiety	3	1 ^a	3	1 ^b	1.19 (0.07, 19.75)	.905
<i>10</i> PTSD	69	22 ^d	41	16 ^b	3.16 (1.18, 8.45)	.022

	Suicidal Ideation (n=35)		No Suicidal Ideation (n=41)		OR (95% CI) ††	p value*
	%	n	%	n		
<i>11</i> Comorbid	91	29 ^d	61	24 ^b	6.04 (1.56, 23.36)	.009
Psychiatric History						
<i>7</i> Dual Diagnosis	97	32 ^d	90	35 ^b	3.66 (0.39, 34.46)	.257
<i>8</i> Psychiatric Treatment	73	25 ^c	15	6	16.20 (5.11, 51.35)	.000

†† OR (95% CI) = unadjusted odds ratio bracketed by 95% Wald confidence interval. Odds ratio indicates the risk for SI versus NSI for each characteristic. Reference category for odds ratio on dichotomous variables is the negative response.

1 Mean [SD] age 31 [4.7] years for SI and 31 [5.8] years for NSI.

2 Mean [SD] years education 11 [2.1] years for SI and 11 [1.5] years for NSI.

3 Among remaining SI, 6% were in controlled environments. Among remaining NSI, 12% were retired or disabled and 5% had missing data.

4 Marital status categories were: Never Married, Married, Widowed, Divorced, Separated, or Unknown. The new category "Married" collapses the categories Married and Separated.

5 Race categories include: African-American, Caucasian, Asian, Alaskan, American Indian, and Other. Among remaining SI, 26% were Caucasian and 3% were in the Other category. Among remaining NSI, 19% were Caucasian and 2% were American Indian.

6 Multiple = more than one current drug dependence diagnosis.

7 Dual diagnosis = 2 or more of any Axis I diagnoses, including 2 or more dependence disorder diagnoses.

8 Psychiatric treatment = any lifetime inpatient or outpatient psychiatric treatment or hospitalization.

9 Anxiety = current Generalized Anxiety Disorder (GAD) only

10 PTSD = Post Traumatic Stress Disorder

11 Comorbid mood and drug or alcohol dependence diagnoses

^a Based on n = 33

^b Based on n = 39

^c Based on n = 34

^d Based on n = 32

* Probability value for Pearson's chi-square statistic; values in bold are statistically significant.

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