

Behavioral Health and Social Correlates of Reincarceration Among Hispanic, Native American, and White Rural Women

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Objective: To identify community reentry needs, this study examined mental illness, substance dependence, and other correlates of reincarceration in an ethnically diverse, rural population of women prisoners. **Methods:** A purposive, cross-sectional sample of 98 women in a New Mexico state prison completed structured interviews. Analyses examined associations of substance dependence, mental illness, lifetime trauma, and sociodemographic variables with previous incarceration. **Results:** Eighty-five percent screened positive for substance dependence, 50% for current mental disorders, and 46% for both. Exposure to trauma was pervasive (100%), especially physical or sexual trauma (83%). In adjusted analyses, previous incarceration was associated with precarious housing before

imprisonment (odds ratio [OR]=2.19, $p=.038$) and with having co-occurring mental illness and substance dependence (OR=2.68, $p=.019$). **Conclusions:** Findings support those of similar studies in urban areas and with other ethnic groups. Wraparound programs focusing on harm reduction, housing, and treatment and support services are needed for successful reentry of these underserved women. (*Psychiatric Services* 64: 590–593, 2013; doi: 10.1176/appi.ps.201200120)

Women prisoners face countless challenges upon release from incarceration, including high rates of mental health and substance use problems that increase their vulnerability to drug overdose, suicide, and reincarceration (1,2). Most return to communities with insufficient housing and economic opportunities and, especially in rural settings, inadequate social service and mental health care infrastructures (3).

Reentry studies of women prisoners generally focus on African-American, Hispanic, and white inmates in urban areas rather than on women returning to rural communities with large Hispanic or Native American populations (4–6). In New Mexico, nearly 45% of women prisoners are from rural communities. Likewise, New Mexico follows national trends of overrepresentation of women of color in

state prisons. For example, although 42% of adult women in New Mexico are Hispanic (7), this group makes up 65% of all incarcerated women in the state (8).

In this study we profiled Hispanic, Native American, and white women prisoners returning to rural communities and examined sociodemographic, mental health, and substance use correlates of reincarceration in this understudied population.

Methods

Between April and August 2009, we collected cross-sectional data from a purposive sample of 98 inmates in New Mexico's only women's prison. Eligible for inclusion were women in the general prisoner population who were scheduled for release within six months to micropolitan counties (<50,000 residents) and noncore counties (<10,000 residents). Both types of counties are regarded as rural (3). Inmates were selected consecutively from lists generated by prison officials until we achieved approximately equal numbers of Hispanic, Native American, and white women. We approached each eligible inmate individually, describing the study and soliciting her participation in a 60- to 90-minute structured interview (one inmate refused to participate).

We collected sociodemographic data and assessed the women for current mental disorders (MINI International Neuropsychiatric Interview [6]), substance dependence in

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the year before incarceration (Texas Christian University Drug Screen [9]), and lifetime exposure to traumatic events (Trauma Health Questionnaire [10]). The Pacific Institute for Research and Evaluation Institutional Review Board approved study protocols. All participants received a \$30 incentive.

We computed descriptive statistics for sociodemographic variables (for example, age, race-ethnicity, age at first arrest, housing stability immediately before incarceration, and income source) and for variables related to trauma, mental health, and substance use. We tested for bivariate associations (chi square or Fisher's exact tests) and multivariate associations (logistic regression) of these variables with previous incarceration status (first-time prisoners [N=52] versus those who had a previous incarceration [N=46]).

Results

The sample included self-identified Hispanic (N=33), Native American (N=33), and white or Anglo (N=32) women. [Among women who self-identified or were categorized as Native American or a member of a specific tribe, four also identified as Hispanic, four also identified as white or Anglo, and one also identified as African American.] Participants ranged in age from 20 to 56 years (mean ± SD age = 35.2 ± 8.4, median = 34). Fifty-two percent (N=51) had completed high school or had a GED, and 90% (N=88) were mothers. Six months before incarceration, 34% (N=33) derived their income from a job, and 51% (N=50) reported economic hardship during this period (that is, not having sufficient income to meet basic needs).

All of the women had experienced at least one traumatic event. Crime-related trauma (N=43, 44%), general-disaster trauma (N=96, 98%), and physical or sexual trauma (N=81, 83%) were common. Ninety-six percent (N=94) reported at least two different incidents of lifetime trauma. Of 24 possible trauma types, women reported a mean of 7.0 ± 4.0 (median = 7). Mean age at first trauma was 12.0 ± 9.4 years (median = 9).

Mental illness and substance dependence were pronounced; 85% (N=83) of the women had a positive

assessment for substance dependence, 50% (N=49) for another current axis I mental disorder, and 46% (N=45) for both. Among those with substance dependence, alcohol (N=31, 37%) and methamphetamine (N=32, 39%) pre-

vailed. Among those reporting an axis I disorder other than substance dependence, mood disorders (N=25, 51%) and anxiety disorders (N=33, 67%), particularly posttraumatic stress disorder (N=12, 24%), were most common.

Table 1

Characteristics of rural women prisoners in New Mexico, by previous incarceration status

Characteristic	Previous incarceration (N=46)		No previous incarceration (N=52)		p ^a	Adjusted p ^b
	N	%	N	%		
Housing situation immediately before incarceration					.058	.038
Lived in own house or apartment	16	35	28	54		
Lived in someone else's house or apartment or in jail, on the street, or other	30	65	24	46		
Age at first arrest					.077	.164
≥18	21	46	33	63		
≤17	25	54	19	37		
Age					.376	
20–29	12	26	19	37		
30–39	20	43	16	31		
≥40	14	30	17	33		
Race-ethnicity ^c					.304	
Native American	19	41	14	27		
Hispanic, Chicana, Mexican American, or Mexicana	13	28	20	38		
White or Anglo, non-Hispanic	14	30	18	35		
Income source during 6 months before incarceration					.827	
Legal employment	16	35	17	33		
Other	30	65	35	67		
Economic hardship during 6 months before incarceration					.849	
No	23	50	25	48		
Yes	23	50	27	52		
Types of lifetime trauma (median split)					.293	
<7	19	41	27	52		
≥7	27	59	25	48		
Age at first trauma (median split)					.810	
<9	21	46	25	48		
≥9	25	54	27	52		
Current mental illness or substance dependence ^d					.165	
No	3	7	8	15		
Yes	43	93	44	85		
Current mental illness and substance dependence					.017	.019
No	19	41	34	65		
Yes	27	59	18	35		

^a For chi square test or Fisher's exact test for cell sizes with N < 5

^b For three-variable logistic regression model. All variables with p < .10 in the bivariate analyses were included in the logistic regression model.

^c Self-identified. Among women who self-identified or were categorized as Native American or a member of a specific tribe, four also identified as Hispanic, four also identified as white or Anglo, and one also identified as African American.

^d Assessment of substance dependence was based on reported experiences before incarceration.

In bivariate analyses (Table 1), compared with first-time prisoners, women who had a previous incarceration had a somewhat higher occurrence of precarious housing before prison entry ($p=.058$), and those with a previous incarceration also were younger at first arrest ($p=.077$), but the differences were not significant. Other variables were not associated with previous incarceration.

Nearly all of the women who had a previous incarceration ($N=43$, 93%) screened positive for current mental illness or substance dependence. This finding limited our ability to detect an association between any disorder and previous incarceration. However, the prevalence of co-occurring disorders (mental illness and substance dependence) was significantly higher among women with a previous incarceration (59%) than among first-time prisoners (35%) ($p=.017$) (Table 1).

The multivariate logistic regression model contained three variables (Table 1). Two variables were significantly associated with reincarceration—precarious housing (odds ratio [OR]=2.19, $p=.038$) and co-occurring mental illness and substance dependence (OR=2.68, $p=.019$)—after the analysis controlled for age at first arrest.

Discussion

To our knowledge, this is the first published study of current mental disorders and reentry issues among rural Hispanic and Native American women prisoners. The prevalence of mental illness and substance dependence is consistent with rates in other studies of ethnically diverse women in U.S. prisons and jails. An Iowa prison study found that 91% of 56 African-American and white women had one or more current disorders, including substance use disorders (82%), mood disorders (61%), and anxiety disorders (46%) (6). In a study involving African-American and Hispanic women in a Chicago jail, 80% of 1,272 inmates had lifetime disorders, including substance use disorders (64%), posttraumatic stress disorder (34%), and major depression (17%) (11).

Our observed high rates of lifetime trauma are comparable to those found in other studies with predominantly African-American samples (12,13).

We found no association between trauma-related variables and previous incarceration, which may be due to a ceiling effect (the sample as a whole experienced very high levels of trauma), particularly given our sample size.

Women with a previous incarceration had higher rates of precarious housing preceding incarceration than first-time prisoners. Limited housing options resulting from economic adversity, the lack of government-subsidized housing, and attenuated social support likely increased the risk of homelessness during initial community reentry. Supportive housing initiatives specific to people leaving prison have been shown to be effective in reducing reincarceration (14). There is an urgent need for comprehensive housing services and reentry planning for rural incarcerated women in New Mexico before and after release.

We found a significantly higher prevalence of co-occurring disorders (substance dependence and another current axis I mental disorder) among previously incarcerated women than among those incarcerated for the first time. Our results are similar to those of previous studies of women prisoners, which suggest that such comorbidity, if inadequately addressed, can undermine reentry by increasing the risk of persistent housing problems, lost productivity and lost employment opportunities, and failures at family reunification (2,15). Wraparound services provided during the early transition period that emphasize harm reduction and treatment engagement may reduce these risks. Although the reentry needs of our participants closely resemble those of urban inmates (4,5), the needs of rural women often remain unmet because of insufficient mental health care and social service delivery in rural areas (3).

We note the following study limitations. The cross-sectional design precluded us from establishing temporal relationships between study variables and reincarceration. We compared women with a previous incarceration with first-time prisoners; thus not all women had an equal chance to experience reincarceration, which curtailed our ability to determine actual

recidivism rates. Our small sample limited the precision of estimates and reduced statistical power to detect associations with reincarceration. Findings from a prison population may not fully generalize to women in jail. A key strength was our focus on rural Hispanic and Native American women prisoners, groups that are largely absent from the literature.

Conclusions

This study highlights the vital importance of addressing the high prevalence of co-occurring disorders, lifetime trauma, and unstable housing among ethnically diverse rural women prisoners who are reentering the community. Wraparound interventions focusing on harm reduction, treatment engagement, housing, and other support services are necessary for successful reentry of these underserved women.

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