Women Behind Bars: Health Needs of Inmates in a County Jail

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SYNOPSIS

Objectives. This study was performed to assess the prevalence of behavioral risk factors and correlates of poor self-reported health among incarcerated women in a county jail in Oregon.

Methods. The authors collected self-reported data from recently incarcerated women at a county jail, focusing on prevalence of high-risk health behaviors, history of health care use, history of physical and sexual abuse, and health care coverage. The authors assessed factors associated with poor self-reported health using logistic regression techniques.

Results. More than half of the participants reported a history of intravenous drug use, 67% reported a history of sexual abuse, 79% reported a history of physical abuse, and 43% stated that they had a history of trading sex for money or drugs. Two factors were associated with poor self-reported health: history of physical assault (odds ratio [OR] = 2.7; 95% confidence interval [CI] 1.4, 5.2) and use of heroin during the month prior to arrest (OR = 2.9; 95% CI 1.3, 6.6).

Conclusions. The high prevalence of health risk behaviors among the inmates suggests a number of areas for intervention. These findings may also be used to guide topics addressed during intake interviews of new inmates, and to help identify inmates that require additional medical or social services.

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Women constitute the fastest growing segment of incarcerated people in the US, including both jail and prison inmates.[1] In 1999, 11.3% of the nation's adult jail population was female, up from 8.0% in 1985.[1] The average daily population of female jail inmates in 1999 was 67,487, a greater than threefold increase from 19,077 female jail inmates in 1985.[1] As the number of female inmates grows at such a fast rate, resources for housing and medical care are becoming increasingly limited. In addition, correctional policy makers are realizing the differences between male and female inmates with regard to their health needs.[2] Despite the growing number of female inmates in jails and prisons, little documentation exists on behavioral risk factors and health care status of these women.

Female jail inmates are typically of low socioeconomic status, have low levels of education, histories of physical and/or sexual abuse, mental health needs, and histories of substance abuse.[3–6] Women in jail frequently report limited access to health care prior to incarceration, a history of homelessness, and participation in high-risk behavior such as engaging in unprotected intercourse and trading sex for money or drugs.[3] Information regarding the health status of female inmates could be used in designing services for this high-risk and underserved population.

To explore the magnitude of the health problems and health service needs of recently incarcerated women, we interviewed inmates about health risk behaviors, histories of physical and sexual abuse, and the extent of their current health needs. Based on suggestions in an earlier report on the association between abuse history and health status among recently incarcerated women,[4] we tested the hypothesis that women with a history of physical or sexual abuse have poorer self-reported health status than women without a history of physical or sexual abuse.

METHODS

We interviewed eligible female inmates from January to March 1999 at a county jail in Oregon (Multnomah County Jail) using a structured questionnaire that focused on health behaviors. Human subjects approval was received from the Oregon Health Division's Institutional Review Board.

Subjects: inclusion and exclusion criteria

We limited eligibility to women who spoke English and who had been housed at Multnomah County Jail for four weeks or less prior to being approached for an interview ($n = 264$). We felt recall would be more accurate among women who had been incarcerated for less than a month. Five women who did not speak English or who had been incarcerated more than four weeks prior to the interviews were not eligible to participate.

Enrollment

The jail log was examined each day to determine eligible inmates. After obtaining a list of eligible inmates, the interviewer (present author AF) spoke to inmates individually. The interviewer explained the study, the eligibility requirements, and the contents of the consent form. If an inmate refused to participate, the interviewer collected information from the inmate on date of birth and reason for refusal. If nonparticipating inmates were still at Multnomah County Jail several days later, the interviewer re-approached them to ask if they had changed their minds and would agree to participate. This strategy was successful for three participants.

Study population

Of 264 inmates approached for the study, 230 (87.1%) women agreed to participate and 34 (12.9%) women refused. When a woman refused, we asked an open-ended question on reason for refusal. Of the 34 women who refused, 14 stated that topics covered in the study were "too personal," 12 expressed disinterest in the study, and eight reported symptoms of drug or alcohol withdrawal.

Of the 230 inmates who agreed to participate, 30 (13%) were either released from Multnomah County Jail before the scheduled interview or refused to participate after initial consent. We interviewed a total of 200 inmates from January to March, 1999. One interview was terminated due to the inmate's hostility; results from this interview were not included in the analysis. Of the remaining 199 participants, one refused to answer questions regarding physical and sexual abuse. Data from a total of 199 interviews were included for analysis, representing a response rate of 75.4% (199/264).

Interviews were conducted in a private interview room at the jail's medical clinic while the medical officer was on duty. Interviews lasted 15 to 30 minutes. The interviewers gave pamphlets on women's health issues to the participants to thank them for their participation.

Questionnaire development

All interviews followed a structured questionnaire focused on the following topics: health status, health care access, tobacco use, history of trading sex for money or drugs, history of intravenous drug use, his-

tory of sharing needles, and drug and alcohol use, including ever use, use in the month prior to arrest, and number of days of use in the month prior to arrest. We asked inmates about use of specific substances: alcohol, marijuana, cocaine, crack, heroin, amphetamines, hallucinogens, barbiturates, and methadone. Four questions focused on physical and sexual abuse; specifically, we asked about physical assault, physical abuse by a sexual partner or family member, forced sexual activity, and sexual abuse. Finally, questions were included on history of homelessness, employment history, reason for current arrest, and number of arrests.

Data analysis

To evaluate the relationship between a history of physical or sexual abuse and self-reported health status, we created a definition of poor health. Women were classified as having self-reported poor health if they met one or more of the following criteria:

- Self-rated general health reported as "fair" or "poor." The question on self-rated general health did not specify a time period, and we did not provide a definition of general health. The answer choices were: excellent, very good, good, fair, or poor.
- Self-rated physical health reported as "not good" for more than half of the month prior to incarceration in answer to the question: "How many days in the 30 days before your arrest was your physical health 'not good'?"
- Self-rated mental health reported as "not good" for more than half of the month prior to incarceration.

Of 199 participants, 119 (59.8%) were categorized as having self-reported poor health. We dichotomized independent variables including history of physical abuse, history of sexual abuse, health care coverage, trading sex for money or drugs, intravenous drug use, drug and alcohol use during the month prior to arrest, educational level, and homelessness during the month prior to arrest. We used chi-square tests to determine the association between independent variables including physical abuse history, sexual abuse history, homelessness during the month prior to arrest, employment status, history of trading sex for money or drugs, history of being tested for sexually transmitted diseases (chlamydia, gonorrhea, syphilis, HIV), alcohol and drug use during the month prior to arrest, sharing needles during intravenous drug use, and the dependent variable—self-reported poor health. We fit univariate logistic regression models using variables that were significantly associated with self-reported poor health in the chi-square analyses. We used three selection methods to determine which independent variables to include in the logistic regression model. These strategies included forward selection, backward elimination, and forced entry. The five variables eligible for entry into the logistic regression models were: history of physical assault, homelessness during the month prior to arrest, heroin use during the month prior to arrest, history of sharing needles during intravenous drug use, and history of being tested for sexually transmitted diseases. We used variables in the forced entry selection that showed statistical significance at $p < 0.05$ in the forward selection and backward elimination models.

We entered data using EpiInfo 6.0[7] and exported the data file to SPSS 8.0[8] for statistical analysis. We reentered data from 10 questionnaires (5%) to ascertain accurate data entry and found no discrepancies during this procedure.

RESULTS

Selected demographic data on study participants are shown in Table 1. Almost 60% (114/199) of the women reported having had health care coverage at the time of incarceration. Among those with health care coverage, 78.9% (90/114) reported coverage through the Oregon Health Plan, the state's Medicaid program. Half (100/199) of the inmates reported being arrested for a parole/probation violation, and nearly a quarter (46/199) reported being arrested for drug possession or sale. One-fifth of the women (41/199) reported having had five or more sex partners in the previous year. More than 40% (85/199) of the study participants stated that at some time in their lives they had traded sex for money or drugs. Inmates who had traded sex for money or drugs were more likely to report having used a condom during last sexual intercourse ($p < 0.001$) and having less than a high school education ($p < 0.03$) than inmates who had not traded sex for money or drugs.

We asked inmates about "ever use" and recent use of tobacco and drugs. A large majority (85.9%) of the participants reported having smoked more than 100 cigarettes in their lifetimes. Almost half (85/199) of the participants reported having smoked more than a pack a day during the month prior to arrest. Almost all (191/199, 96%) of the participants reported ever using alcohol, 183 (92%) of the participants reported ever using marijuana, 158 (79.4%) reported ever using cocaine, 139 (69.8%) reported ever using crack, 85 (42.7%) reported ever using heroin, 117 (58.8%)

Table 1. Self-reported demographic characteristics of study subjects: Multnomah County Jail Health Study, 1999 (*N* = 199)

Characteristic	*Number*	*Percent*
Age (years)		
20–29	68	34.2
30–39	84	42.2
≥40	47	23.6
Marital status		
Single	61	30.7
Married	20	10.1
Separated	21	10.6
Divorced	33	16.6
Widowed	6	3.0
Living with partner	58	29.1
Number of children		
0	37	18.6
1–3	137	68.8
≥4	25	12.6
Highest level of education		
<7 years	1	0.5
7th–11th grade	79	39.7
Earned GED certificate	29	14.6
Graduated high school	43	21.6
Some college	36	18.1
Graduated college	10	5.0
Graduate education degree	1	0.5
Receiving government assistance at time of arrest[a]		
Yes	58	29.1
No	141	70.9
Pregnant at time of interview		
Yes	10	5.0
No	189	95.0
History of homelessness		
Yes	136	68.3
No	63	31.7

[a]Welfare, Food Stamps, or Supplemental Security Income

reported ever using amphetamines, 93 (46.7%) reported ever using hallucinogens, 50 (25.1%) reported ever using barbiturates, and 39 (19.6%) of the participants reported ever using methadone.

Among those participants who reported ever using each drug, 38.8% (54/139) of participants who reported use of crack said they had used crack during the month prior to incarceration, 42.7% (50/117) of participants who reported use of amphetamines said they had used amphetamines during the month prior to incarceration, 48.2% (41/85) of participants who reported use of heroin said they had done so during the month prior to incarceration, and 25.9% (41/158) of participants who reported use of cocaine said they had used cocaine during the month prior to incarceration.

Of 198 participants who responded to questions on physical and sexual abuse, 157 (79.3%) reported physical abuse by a partner or family member. Those inmates with a reported history of physical abuse were more likely to report having ever used amphetamines ($p < 0.02$) and intravenous drugs ($p < 0.05$) and a history of homelessness ($p < 0.01$) than those not reporting a history of physical abuse. Just over two-thirds (67.7%) of participants reported having experienced sexual abuse. Participants who reported a history of sexual abuse were more likely than those without a sexual abuse history to report a history of trading sex for money or drugs ($p < 0.001$), ever using methadone ($p < 0.04$), ever using intravenous drugs ($p < .05$), a history of homelessness ($p < 0.001$), and a history of physical abuse ($p < 0.001$).

In univariate analyses, self-reported poor health was associated with self-reports of a history of physical assault, homelessness during the month prior to arrest, history of sharing needles during intravenous drug use, history of being tested for sexually transmitted diseases, and use of heroin during the month prior to arrest (Table 2). Only three variables—history of physical assault, use of heroin during the month prior to arrest, and homelessness during the month prior to arrest—were used in the final logistic model (Table 3) because of the strengths of the associations found.

Table 2. Predictors of poor self-reported health of study subjects, univariate logistic regression analysis, Multnomah County Jail Health Study, 1999

Variable	*OR*	*95% CI*
History of physical assault	2.7	1.4, 5.1
Homeless during month prior to arrest	2.3	1.2, 4.4
History of STD testing	2.6	1.3, 5.5
Heroin use during month prior to arrest	2.9	1.3, 6.5
History of sharing needles during intravenous drug use	2.0	1.1, 3.9

OR = odds ratio
CI = confidence interval

Table 3. Predictors of poor self-reported health of study subjects, logistic regression modeling using simultaneous control of each variable listed, Multnomah County Jail Health Study, 1999

Variable	*OR*	*95% CI*
History of physical assault	2.7	1.4, 5.2
Heroin use during month prior to arrest	2.9	1.3, 6.6
Homelessness during month prior to arrest	2.2	1.1, 4.5

OR = odds ratio
CI = confidence interval

DISCUSSION

In this study, we examined potential factors associated with self-reported poor health among recently incarcerated female inmates. Five variables were independently associated with poor health: history of physical assault, homelessness during the month prior to arrest, history of sharing needles during intravenous drug use, history of being tested for sexually transmitted diseases, and reported use of heroin during the month prior to arrest.

Our data showed higher prevalences of physical and sexual abuse than have been reported in other studies of jail inmates. A previous study of recently incarcerated women found a 40% prevalence of physical abuse and a 33% prevalence of sexual abuse.[4] The Bureau of Justice Statistics reported that half of female jail inmates in 1996 had histories of physical and/or sexual abuse.[9] We found that 79.9% of our participants reported ever being physically or sexually assaulted.

The range of health care needs of abused women, both physical and mental, has been well documented. Women with a history of physical and/or sexual abuse have higher prevalences of mental health problems including depression, anxiety, low self-esteem, and suicide attempts.[10] Studies on women with histories of abuse have shown that this population of women also tend to have higher prevalences of physical health problems, including neurological problems, gastrointestinal problems, and gynecological problems.[11,12] The particular health care service needs of abused women are an important factor in considering the health care needs of incarcerated women.

More than two-thirds of the participants in this study reported ever using crack, while an investigation in a New York city jail found that 49% of recently incarcerated women reported using crack.[5] More than 40% of the women in our study reported ever using heroin, compared with 30% among female detainees in a New York city jail.[4] Finally, more than half of the participants in our study reported ever using intravenous drugs, more than twice the proportion reported by Richie and Johnson among incarcerated women in a New York city jail.[4] These differences in rates of use of illicit drugs could be partially accounted for by differing methods of survey administration. For the present study, all interviews were held in a private interview room in the medical clinic after each inmate was individually recruited in the dormitory. Previous studies have recruited inmates through posted notices and staff referral, and interviews have been held in the intake area during intake processing. The higher degree of privacy in our study may be a partial explanation for the higher proportions of reported substance abuse and physical and/or sexual abuse.

Several investigations have focused on the relationship between high-risk behavior, such as trading sex for money or drugs and use of illicit drugs, and a history of physical and sexual abuse among recently incarcerated women.[3–5] Health risk behaviors were frequently reported among our population. Nearly three-quarters of the inmates were smokers, more than two-thirds reported ever being homeless, one-fifth reported having had five or more sex partners during the previous year, and close to half reported having ever traded sex for money or drugs.

Several studies have documented the correlation between self-reported health and actual health status.[13–16] In general, those who report poorer health have poorer health status than those who report better health. Thus we felt it was appropriate to use self-reported levels of general, physical, and mental health as adequate measures for poor health, although the association between self-rated health and health status has not been validated for incarcerated populations.

This study has several limitations that must be recognized. All analyses were based on self-reported responses. We were not able to validate inmates' responses with medical or correctional records. Responses to questions depended on the inmates' interpretations of the questions, including questions on physical abuse, sexual abuse, physical assault, and rape.

Findings from this study can contribute to improvement in corrections health in two ways. First, we collected a great deal of descriptive data regarding the background characteristics, access to health care prior to incarceration, drug and alcohol use, history of traumatic experiences, and homelessness. These data can help policy makers understand the characteristics and needs of recently incarcerated women. Second, we

identified two variables predictive of self-reported poor health. Health care providers involved in the inmate screening process should include questions regarding these two variables during the initial inmate interview, allowing identification of inmates who could benefit from additional health care services.

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