

Reproductive Health Care and Family Planning Needs Among Incarcerated Women

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The number of incarcerated women has increased steadily during the past several decades, with the current rate of arrest being 3.2 million women annually.¹ Between 1985 and 1997, the number of incarcerated American women tripled: the rate has increased by more than 11% each year compared with 8% among men. In 2001, the chance of a woman going to prison was 6 times greater than in 1974.² Most women (85%) are incarcerated for nonviolent crimes, including drug offenses.¹ Several studies have shown an association between extensive histories of both substance abuse and commercial sex work among incarcerated women and an elevated risk for reproductive health problems, including high-risk pregnancies and increased rates of HIV and other sexually transmitted diseases (STDs).^{3–5}

Nationally, at any point in time, between 6% and 10% of incarcerated women are pregnant. In 1998, 1400 women gave birth while incarcerated.^{6–7} Pregnancies among this population are usually unplanned, high risk, and have poor outcomes because (1) many of these women lack or fail to access/attend prenatal care; (2) the use of drugs leads to preterm deliveries, spontaneous abortions, low-birthweight infants, and preeclampsia; (3) high rates of psychiatric illness may result in fetal exposure to teratogenic medications during treatment; (4) alcohol use during pregnancy may cause fetal alcohol syndrome; and (5) many of these women have poor nutrition and high STD rates.^{8–14}

Studies have shown that rates of STDs are much greater within prison populations compared with the general population.¹⁵ In a report issued by the Centers for Disease Control and Prevention, incarcerated women had significantly higher rates of chlamydia (27%) and gonorrhea (8%) compared with the general population (rates of 0.46% and 0.13%, respectively).¹⁶ In addition to the immediate health consequences of STDs, data show that many

Objectives. Women in correctional institutions have substantial reproductive health problems, yet they are underserved in receipt of reproductive health care. We assessed the level of risk for sexually transmitted diseases (STDs) and the reproductive health needs of 484 incarcerated women in Rhode Island to plan an intervention for women returning to the community.

Methods. We used a 45-minute survey to assess medical histories, pregnancy and birth control use histories, current pregnancy intentions, substance use during the past 3 months, histories of childhood sexual abuse, and health attitudes and behaviors.

Results. Participants had extremely high risks for STDs and pregnancy, which was characterized by inconsistent birth control (66.5%) and condom use (80.4%), multiple partners (38%), and a high prevalence of unplanned pregnancies (83.6%) and STDs (49%). Only 15.4% said it was not likely that they would have sexual relations with a man within 6 months after release.

Conclusion. Reproductive health services must be offered to incarcerated women. Such interventions will benefit the women, the criminal justice systems, and the communities to which the women will return. (*Am J Public Health.* 2006; 96:834–839. doi:10.2105/AJPH.2004.060236)

STDs can increase the risk for HIV transmission 3- to 5-fold.¹⁷

Despite an increased need for reproductive health services among incarcerated women who are at risk for STDs and pregnancy, they are often underserved in receipt of reproductive health and family planning services. The steady growth in the number of women incarcerated each year makes this disparity even more salient. When women are released from prison, they have many competing needs for food, shelter, and safety, which often results in neglect of reproductive healthcare. There is a complex overlay of behaviors that lead to incarceration and activities that contribute to STDs and unplanned pregnancies. Incarceration is an opportunity to provide reproductive health services to a large population of high-risk women who might not otherwise seek health services. Our study assessed the risk for STDs and the reproductive health needs of 484 incarcerated women in Rhode Island to develop a service intervention for women who reenter the community.

METHODS

Study Site

The Rhode Island Adult Correctional Institute (ACI) is a unified correctional system that serves as a combined prison and jail and holds all of the state's pretrial and sentenced inmates. There are approximately 2000 female commitments to the ACI annually, 400 of whom receive sentences. Similar to other female prisoners throughout the country,¹⁸ most of the women in the ACI (79%) are charged with nonviolent crimes, and 31% of the crimes are drug-related. More than 72% of the women are younger than 40 years, 50% to 70% have a major psychiatric illness, and 56% who are released from prison are reincarcerated within 1 year. Among women who are not sentenced, 69% are released within 4 days, and 45% of the women who are sentenced are released within 6 months or fewer. Despite short sentences, many of these women are involved with the justice system for decades.¹⁸

Sample and Procedure

A certificate of confidentiality was obtained from the federal government to ensure participant privacy. Trained research assistants read aloud the entire consent form, answered all questions, and emphasized that study participation was not associated with extra medical services while incarcerated and would not influence parole status, privileges, or receipt of standard ACI family planning care, including educational services, reproductive health services, or birth control services. The warden helped guarantee participant confidentiality and granted permission for all interviews to occur one-on-one with female research assistants in unmonitored rooms.

We recruited both women who were sentenced and those who were awaiting trial. Research assistants reviewed traffic sheets (daily printouts of all female inmates committed to or released from the facility) Monday (which included weekend traffic) through Friday, and they attempted to contact each woman. Research staff collected data on which women declined participation, were released before contact, or did not meet inclusion criteria. Women were recruited between June 2002 and December 2003 as part of a larger study that involved a Title X program in which women began using birth control methods—free of charge—during their incarceration or after their release.¹⁹ Women aged 18 years and older who spoke English, who were housed in the general facility population, and who were able to competently complete the informed consent process were eligible for inclusion. We followed the status of women who were unable to be screened because of security issues, illness, or acute withdrawal from drugs and/or alcohol until they were released or could be evaluated for eligibility.

Of the 2298 women who were committed during the recruitment period, 707 were released before research staff could approach them. Of the women who were screened, 75 did not meet the inclusion criteria and were excluded. During the final 6 months of the study, we only recruited women who were at risk for an unplanned pregnancy; 721 women were excluded because they had had a hysterectomy or a tubal ligation, they had not been sexually active with a man during the 3 months before incarceration, or they wanted

to become pregnant within 6 months after their release. Of the remaining 795 women, 484 (61%) participated in our study.

Measures

Demographics. Participants reported age, race/ethnicity, education status, employment history, living situations, and health insurance status.

Substance use history. Participants were asked if they had ever used heroin, nonprescribed opiates/pain killers, nonprescribed barbiturates, nonprescribed sedatives or benzodiazepines, cocaine, amphetamines, cannabis, hallucinogens, and inhalants. Participants who answered affirmatively were asked, “How many days out of the last 90 have you used . . . ?” Recent substance use was defined as any heroin, nonprescribed opiates, or cocaine during the past 3 months. These items were modeled from the Addictions Severity Index, which has been used with other high-risk populations, including psychiatric inpatients, substance-dependent veterans, and mentally ill substance abusers.^{20–23} Follow-up interviews were conducted at 3 and 6 months after the baseline interview; hence, a decision was made to ask about substance use during the past 3 months to permit future comparison across time points.

To determine whether participants had problems with alcohol use, we asked, “In the 90 days prior to entry at the ACI, how many days did you use alcohol to intoxication?” Those who reported intoxication 3 or more times during the 3 months were considered to be heavy alcohol users. Because 29% of incarcerated women had been consuming alcohol at the time of their offense, we did not limit the analysis of alcohol use to those who had a diagnosis of alcohol abuse or dependence.¹

Childhood sexual abuse. Participants were asked, “As a child [aged 16 years or younger] were you ever sexually abused or assaulted by a family member (for example: sexual touching anywhere on your body, touching of genitals and/or breasts, or made to have oral sex or vaginal or anal intercourse)?” The question was repeated with the perpetrator being changed to “somebody you knew” and “a stranger.” Any affirmative response was recorded as a history of childhood sexual abuse. Childhood sexual abuse was defined as having occurred before the age of 17 years

on the basis of previous research.^{24,25} There is no universal definition for measuring sexual abuse, which is a problem when assessing it.²⁶ The examples of childhood sexual abuse we used described several types of unwanted and potentially harmful sexual experiences to help participant recall.

Sexual and reproductive history. Measures of sexual history included (1) whether the participant had been sexually active during the past 3 months (“Have you had sex with a man [vaginal intercourse—penis-in-vagina] in the 3 months before you came to the ACI?”); (2) the number of partners the participant had during the past 3 months; and (3) whether or not the participant had a history of sex work (“Have you ever had sex so you could get drugs or money? [vaginal intercourse, oral sex, or anal sex]”). Participants were asked how likely it was that they would have sexual relations with a man within 6 months after leaving prison; responses ranged from not likely (1) to extremely likely (5).

We assessed reproductive history, including pregnancy history (history of unplanned pregnancy, age of first pregnancy, number of pregnancies and deliveries, and history of abortion/pregnancy termination), menstrual history (number of days since last period, whether menstruation was irregular during the 3 months before incarceration, and amenorrhea); number of months since last Pap test, and STD history (gonorrhea/chlamydia, trichomonas, syphilis, pelvic inflammatory disease, condyloma, herpes, and HIV/AIDS).

Birth control history was measured by self-report of having had a tubal ligation or hysterectomy or having ever used condoms, oral contraceptives, Depo-Provera, Norplant, IUD, or other methods (e.g., Lunelle, Orthro-Evra). Additionally, women were asked whether they had used birth control (including condoms) always during the 3 months before incarceration (consistent birth control users). Inconsistent birth control users were women who had not continuously used birth control methods, including those who reported no other birth control method and those who had not used condoms with all partners for every episode of vaginal sex during the past 3 months.

General health. Items included a measure of self-perceived health (“How would you rate

your health in general?”). Responses ranged from poor (1) to excellent (5). This item was taken from the MOS 36-Item Short Form Health Survey.²⁷ Women also were asked whether they had a history of chronic medical illnesses, such as diabetes, migraines, hypertension, seizures, or hepatitis C.

RESULTS

Description of Sample

Study participants did not differ significantly from eligible women who declined to participate or from women who declined to be screened with respect to mean age, racial composition, or total duration of current incarceration. The mean age of participants was 30.7 years; as expected, participants who had previously been incarcerated were significantly older (32.5 years) than participants who had no previous incarcerations (27.1 years). As shown in Table 1, this sample was predominately non-Hispanic White (56%). Almost half (43%) were either high school graduates or had obtained their general equivalency diploma (GED), and the majority (54.3%) had no health insurance. The median length of current incarceration was 14 days. Before commitment, participants reported living alone (7.7%), living with friends (15.2%), living with family (22.3%), living with sexual partners only (19.6%), living with children only (10.2%), living with partners and children (13.3%), or being homeless (11.1%). Forty percent rated their health as poor or fair, and 19.7% reported hepatitis C infection. The majority (52.3%) reported heroin, cocaine, or other opiate use during the past 3 months, and one third (34%) reported drinking to the point of intoxication 3 or more times during the past 3 months. A large number of participants (40.5%) reported a history of childhood sexual abuse.

Sexual and Reproductive Histories

During the 3 months before incarceration, 83.6% of participants were sexually active, and 33.7% reported a history of sex work. As shown in Table 2, 84.4% of participants had ever used a reversible form of birth control, excluding condoms (89.4% reported ever using condoms); oral contraceptive methods were largely accessed (69.5%) at some point,

TABLE 1—Sample Demographics (n = 484)

	Total Sample
Mean age (SD)	30.7 (8.4)
Race/ ethnicity	
Non-Hispanic White	56%
Non-Hispanic Black	16%
Non-Hispanic other	9.9%
Hispanic	18.1%
Length of incarceration ^a	
1–2 days	5.4%
3–7 days	23.5%
8–14 days	21.3%
> 14 days	49.8%
Completed high school/GED	43.4%
Ever had job for > 1 year	69.9%
No health insurance	54.3%
Living situation prior to incarceration	
Sexual partner/spouse and children	13.3%
Sexual partner only	19.6%
Children only	10.2%
Parents or other family	22.3%
Friends	15.2%
Alone	7.7%
Homeless	11.1%
Mean self-rated health on scale of 1–5 (SD)	2.71 (0.9)
Poor/fair	40.1%
Good	42.1%
Very good/ excellent	16.1%
Substance Use	
Used alcohol to intoxication ≥ 3 times during past 3 mo.	34%
Used drugs (heroin, cocaine, other opiates) during past 3 mo.	52.3%
History of childhood sexual abuse	40.5%
History of sex work (n = 318) ^b	33.7%
Sexually active during past 3 mo.	83.6%
Health	
History of diabetes	1.1%
History of migraines	35.6%
History of hypertension	8.1%
History of seizures	6.9%
Hepatitis C infected	19.7%

^aMedian 14 days, range 1–581 days.

^bData missing for 150 participants.

TABLE 2—Birth Control and Reproductive Health History

	Value
Birth control history	
Ever used any type of contraceptive method ^a	84.4%
Ever used birth control pills	69.5%
Ever used Depo-Provera	30.3%
Ever used Norplant	4.2%
Ever used IUD	7.9%
Ever used Condoms	89.4%
Median number of months since last Pap test	12 (0–156)
History of pregnancy	83.8%
Has had an unplanned pregnancy	83.6%
Median age of first pregnancy (range)	17 (12–38)
Median number of pregnancies (range)	6 (1–17)
Median number of deliveries (range)	2 (0–9)
History of abortion/pregnancy termination	35.1%
Self-reported STD history	
History of gonorrhea/chlamydia	31.5%
History of trichomonas	22.3%
History of syphilis	2.7%
History of pelvic inflammatory disease	8.9%
History of condyloma (genital warts)	8.5%
History of herpes	1.9%
History of HIV/AIDS	0.8%
History of any above STD	49%

Note. STD = sexually transmitted disease.

^aExcluding condom use.

who had been pregnant, 83.6% reported having had an unplanned pregnancy, and 35.1% reported a past abortion. The median number of pregnancies was 6, with a median of 2 deliveries. Half of our sample (49%) had a history of an STD, the most common of which were gonorrhea or chlamydia (31.5%) and trichomonas (22.3%).

Table 3 shows those women (n=250) who were considered at risk for unplanned pregnancies. All of the women included in this analysis were aged 40 years or younger, were sexually active with men during the past 3 months, and said at screening that they were not planning to become pregnant

followed by Depo-Provera (30.3%), an IUD (7.9%), and Norplant (4.2%). Thirty-one percent of participants had had either a tubal ligation or hysterectomy. The majority (83.8%) had a history of pregnancies, with a median age of 17 at time of first pregnancy. Of those

TABLE 3—Characteristics of Women at Risk for Unplanned Pregnancy^a

	%
Number of sexual partners during the past 3 mo.	
1	62
2-3	19.8
>3	18.2
Birth control use during the past 3 mo.	
None	5.6
Inconsistent use	66.5
Consistent use	27.9
Consistent condom use during the past 3 mo.	19.6
Median number of days since last period	15 ^b
Irregular periods during the past 3 mo.	36.6
Amenorrhea (no period during the past 3 mo.) ^b	9.2
Likelihood of having sexual relations within	
6 months after release	
Not likely	15.4
Slightly likely	6.6
Somewhat likely	10.8
Very likely	24.4
Extremely likely	42.8

^aSexually active during the past 3 months, aged 40 years or younger, and no history of tubal ligation or hysterectomy (n = 250).

^bWomen who were currently using Depo-Provera were excluded from the analysis.

within 6 months after release. Within this subgroup of sexually active women, 72.1% reported inconsistent or no birth control use during the past 3 months. Furthermore, only 19.6% reported consistent condom use during that time period. Notably, 38% reported multiple sexual partners during the same time span, only 15.4% said it was not likely that they would have sexual relations with a man within 6 months after release, and 67.2% said they were very likely or extremely likely to have sexual relations with a man within 6 months after release.

DISCUSSION

There are 34 million US women at risk for an unwanted pregnancy (fertile, sexually active women who do not want to become pregnant), 90% of whom are using some form of contraceptive.²⁸ In our study—the first comprehensive report of reproductive histories among incarcerated women—only 28%

of the women at risk for an unplanned pregnancy used birth control consistently, and 5.6% had never used a contraceptive method during the past 3 months. Furthermore, despite having an elevated risk for pregnancy and STDs, only 1 in 5 of these women had used condoms consistently.

Nationally in 1994, 49% of pregnancies were unintended, and 48% of the women aged 15 to 44 years reported having had 1 or more unintended pregnancies during their lifetime, 54% of which ended in abortion.²⁹ The prevalence of having had an unintended pregnancy was much higher (83.6%) among the women who had had a previous pregnancy in our sample.

In 2002, only 28.1% of US women were living in poverty and were uninsured.³⁰ Within our sample, 54% entered the facility without health insurance, which emphasizes the barriers this population faces when accessing healthcare. Only 43% of our participants had completed high school or had a GED, 30.1% never had a job for more than 1 year, and 11.1% were homeless. Additional problems—such as drug use, alcohol use, and having a history of childhood sexual abuse—are further barriers to maintaining healthy and crime-free lifestyles.

Many of the risk factors that made the women in our study susceptible to unplanned pregnancies (multiple sexual partners, lack of condom use, and substance use) are the very same factors that put them at risk for STDs. Each year, more than 15 million people become infected with at least 1 STD, and the highest rates are among those aged of 15 to 24 years.³¹ Among the women in our sample, 31.5% reported ever having tested positive for gonorrhea or chlamydia, 22.3% had tested positive for trichomonas, and 8.9% had a history of pelvic inflammatory disease. Although participants were asked about lifetime exposure, which is generally underreported,³² the rates were still higher than the rates of the general population.^{32,33} It is well established that the burden of STDs can be diminished by reducing the number of sexual partners and by using barrier contraception methods—including condoms, diaphragms, cervical caps, and possibly hormonal contraception—to reduce the risk of ascending infection.^{34,35}

Incarceration is often the only opportunity for many disenfranchised women to receive general medical care, reproductive health care, and preventive health care services. These women often lack recommended preventive health care, such as Pap tests, STD screening, family planning services, and preconception counseling. Women who are awaiting trial but are not sentenced often do not receive these services because of the short time span between commitment and release. Upon returning to the community, a woman faces many competing stressors and demands—such as securing housing, employment, and food and managing family reunification—and is often confronted with the temptation of relapse into drug and/or alcohol use.

Title X, which was signed into law more than 30 years ago, is America's largest family planning program. Title X's primary function is to reduce unintended pregnancy by providing contraceptive and related reproductive health care services to underserved populations. In 1999, Title X helped support and fund 61% of all family planning agencies in the country, and it continues to be a vital component in ensuring that reproductive health care is provided to marginalized populations.³⁶ In 2002, almost 5 million women received family planning services at clinics that received Title X funds.³⁷ In 2001, Title X services were offered for the first time in the ACI.²⁰ These services provide reproductive health care to women during incarceration and, with the same nurse, when they return to the community. These Title X-funded services are offered at no charge regardless of financial status, and they enable a woman to plan for conception during times of abstinence and stability.

There are several limitations to our study. First, the data were self-reported and were subject to all of the biases associated with self-reported data. However, many of the measures we used have been previously validated and have been shown to have good validity measures among similar populations. We expected underreporting of socially undesirable outcomes, such as an STD history or lack of birth control use. However, responses remained high and likely underrepresent the extent of the problems. The exclusion of non-English-speaking women

was another limitation; however, this group was small, and it is unlikely that this exclusion greatly influenced the results.

CONCLUSIONS

The limited number of health care dollars available for incarcerated women makes it imperative that interventions are targeted toward those at greatest risk. Drug use, multiple sexual partners, and lack of contraceptive use were more prevalent among the women who had a previous incarceration than among the women who had no previous incarcerations. Hence, there should be an emphasis on reproductive health care services, because incarcerated women are at high risk for unplanned pregnancies and STDs. The majority of women who are incarcerated are released within a matter of days to weeks, when they may again be exposed to both infections associated with sexual and drug use activity and the risk for an unintended pregnancy. If services are provided during the first days of incarceration, it is possible that we can reach the majority of women at risk.

Our study shows the overwhelming reproductive health needs of incarcerated women. Because of the high rates of recidivism and the costs of medical care for pregnant inmates, it is likely that providing reproductive health services will produce a substantial cost savings not only for correctional facilities but also for the municipalities that become responsible for high-risk births. We are currently developing and testing the feasibility and effectiveness of a Title X-sponsored intervention designed to expand reproductive health services during incarceration and then provide continuity of these services within the community once the women are released.¹⁹ ■

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Contributors

J.G. Clarke originated the study, supervised all aspects of the implementation, and led the writing. M.R. Hebert interviewed study participants, entered data, conducted literature searches, and assisted with the writing. C. Rosengard assisted with the analytic plan, supervised research staff, ensured data integrity, and contributed to the writing. J.S. Rose completed and synthesized the analyses. K.M. DaSilva collected and entered data and assisted with background literature searches and manuscript development. M.D. Stein supervised the research team and manuscript preparation. All the authors conceptualized ideas, interpreted findings, and reviewed drafts and revisions of the article.

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Human Participant Protection

This study was approved by the institutional review board of Miriam Hospital and the Office of Human Research Protections, and a Federal Certificate of Confidentiality was obtained before data was collected.

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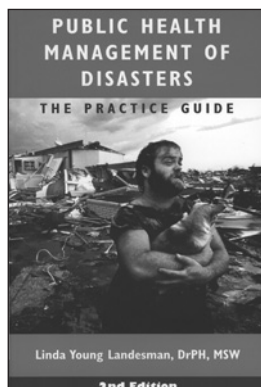
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