Emergency Contraception for Newly Arrested Women: Evidence for an Unrecognized Public Health Opportunity

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ABSTRACT *Incarceration affords an opportunity to provide health care to populations with limited access to care. Women in this population are at high risk for experiencing unintended pregnancies. It is not known what proportion of these women engage in unprotected intercourse in the days prior to incarceration and therefore may benefit from being offered emergency contraception upon their arrest to decrease their risk of unintended pregnancies. We sought to describe the proportion and characteristics of newly arrested women who are eligible for and interested in taking emergency contraception by conducting a cross-sectional study in an urban county jail booking facility. A 63-item survey was administered to women ages 18–44 within 24 h of being arrested in San Francisco. Eighty-four (29%) women were eligible for emergency contraception. Of these, 48% indicated a willingness to take emergency contraception if offered. Half of the women eligible for emergency contraception expressed ambivalent attitudes about pregnancy. Women who had taken emergency contraception in the past were more likely to say they would accept it (45%) than women who had never used it (25%, $p=.05$). The strongest predictor of willingness to take emergency contraception was not having a misperception about its safety, efficacy, or mechanism of action ($RR=1.9$, 95% CI 1.2–3.0). Seventy-one percent of all women indicated that they would accept an advance supply of emergency contraception upon release from jail. Emergency contraception counseling and provision should be offered to newly arrested women as a key reproductive and public health intervention for a traditionally marginalized, high-risk population.*

KEYWORDS *Incarcerated women, Emergency contraception, Reproductive health*

INTRODUCTION

Women who enter the criminal justice system generally come from socioeconomically and medically marginalized sectors of society, often with limited access to health care.^{1,2} Improving health care for this population is part of the larger project of reducing health disparities in our society. While the opportunity to address public health needs in jails and prisons has long been recognized,¹ the gender-specific health needs of incarcerated women have received minimal attention.³

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In the USA, approximately 2.6 million women are arrested annually, and 65% of them remain incarcerated.^{4,5} The time period when they are in jail creates an opportunity to attend to their health care needs. The vast majority of incarcerated women are of reproductive age,⁶ and family planning is therefore a key component of their health care needs. Previous research has shown that this is a population at high risk of unintended pregnancies. One study of incarcerated women in Rhode Island reported that 84% had been sexually active within the 3 months before their arrest, and only 28% consistently used a contraceptive method despite not wanting to be pregnant.⁷ Over 80% of these women also reported a history of prior unintended pregnancies.

Many people experience difficult life events during the time before getting arrested, and these events can be associated with sexual risk taking.⁸ This may also be a time of increased risk for unintended pregnancy. Emergency contraception (EC), which functions by preventing ovulation, can reduce the risk of becoming pregnant by 85% when taken within 5 days of an act of unprotected sex.⁹ EC has the potential to be a key intervention to offer to appropriately screened women at the time of their initial jail medical intake. However, it is not known what proportion of arrested women have had unprotected, heterosexual intercourse in the days before their arrest. Moreover, we know of no published study that has evaluated the knowledge of and attitudes toward EC in this population. We conducted a cross-sectional study of newly arrested women in a busy, urban jail to assess the proportion and characteristics of women who would be eligible and willing to take EC upon incarceration.

METHODS

Study Population and Setting

We studied a consecutive sample of newly arrested women entering the San Francisco County Jail Intake Facility from November 2008 to January 2009. All women arrested in San Francisco City and County are brought here, and they are subsequently either released within 24 h of intake or become incarcerated when they are moved to the general housing unit for women. The average daily female population in 2008 was 261 women, with approximately 20 female intakes per day. Similar to the racial and ethnic composition of jails nationwide, most women housed at the San Francisco County Jail are disproportionately black (67%) and Hispanic (10%).

Women were eligible for the study if they were between the ages of 18 and 44, English-speaking, and mentally competent to consent. They were excluded if they had been in the facility for over 24 h or if they were in security isolation. Women arrested solely for sex work are held in a separate location in the jail, and we were not able to approach them. We included women who had participated in the study during a previous arrest because we considered each arrest to be a separate event, with an independent potential need for EC.

Study Procedures

The Jail Health Services nurse on duty informed all potential participants about a “women’s health study” at the routine medical intake. Research staff determined eligibility and approached those women who had expressed to the nurse an interest in participation, giving women more detailed information about the study.

Participation in the study did not interrupt a woman's legal or medical processing through the jail system. After giving informed consent, subjects completed a 20-min, audio computer-assisted self-interview (ACASI) survey in a private room. ACASI does not require a high level of literacy and has been shown to be a useful tool for gathering accurate information on sensitive topics around reproductive and sexual health.¹⁰ After completion of the survey, women received \$10 cash, which was deposited in their jail account.

Ethical Considerations

We took particular care to ensure that the study was conducted in a non-coercive fashion. As part of the consent process, we emphasized that participation in the study would not affect women's legal status or their access to health care services. This study was approved by the San Francisco Sheriff's Department, San Francisco Jail Health Services, and by the Committee on Human Research at the University of California, San Francisco, with special consideration for research with prisoners.

Survey

The survey consisted of 63 items assessing a variety of sociodemographic and reproductive health variables, including pregnancy history, current pregnancy status, contraception use, and sexual behaviors in the last 5 days. All variables were determined by self-report. The survey instrument was adapted from studies exploring the need for EC among women presenting to an emergency room¹¹ and urban urgent care clinic.¹² It was pretested in two focus groups with 15 previously incarcerated women and was modified accordingly.

The survey asked if a woman was "currently using" a method of contraception and, if so, which method. We considered the following to be reliable contraceptive methods: surgical sterilization (hysterectomy or tubal ligation), intrauterine contraception, subdermal implant, oral contraceptive pills, the contraceptive patch, the contraceptive vaginal ring, depo medroxyprogesterone acetate (DMPA), and, if used consistently, diaphragm or spermicide. We also specifically asked if a woman had used a method of birth control in the last 5 days. If she had not, even if she had reported currently using a method, we considered her to be not protected from that method. We then asked whether a woman had vaginal sex with a man in the last 5 days, explaining to respondents: "There are many ways women have sex. However, for the rest of the survey, the word 'sex' should only be taken to mean vaginal intercourse with a man, or when his penis is in your vagina. It should not be taken to mean oral sex, anal sex, or sex with women. Any other sexual activities should not be considered for the purposes of this survey." If a woman had been sexually active, we subsequently elicited whether a condom was used with every act of sex; whether the condom broke; and if sexual encounters in the last 5 days were associated with alcohol or drugs, sex work, or violence. We defined a woman as eligible for emergency contraception at the time of the intake if she was not pregnant, not sterilized, not currently using a reliable method of birth control as defined above, and had had sex without an intact condom in the previous 5 days.

In addition, we asked all women about prior experience with EC as well as their preexisting perceptions about EC's safety, efficacy, side effects, and whether or not it causes an abortion. These measures were assessed using a five-point Likert scale to assess to what degree they know that EC is safe, effective, and is not an abortifacient; a misperception for any of these items was considered to be a score of less than or equal to 3. After explaining what EC is, the survey then asked a

woman whether she would be willing to take EC if she were eligible and if it were available in the jail. In our analysis, we compared women who would be willing to take it to women who would not take it, either because they did not want to take it or because they were uncertain about taking EC. Women were asked to consider advance provision of EC upon release from jail. The survey also assessed if EC raised “personal or religious concerns.” Because we were also interested in various factors which may influence women’s interest in taking EC, we asked those women who had had reported having sex: “Do you think you could have gotten pregnant from having sex in the last 5 days?”

All women who were not pregnant, not sterilized, or not using an IUD or implant reported their pregnancy attitudes. We assessed their attitudes with two statements that have been previously used by Clarke et al. in this population: “I want to be pregnant right now” and “I would be very upset if I were pregnant right now.” The combined responses to these statements were then categorized into positive, negative, or ambivalent pregnancy attitudes, as described by Clarke et al.¹³

Sample Size and Data Analysis

Our projected sample size was based on a study of women presenting to an urban urgent care clinic for a variety of complaints.¹² Based on their 11% (95% CI 7–15) prevalence of women who were eligible for EC, with a binomial distribution, we planned to enroll 270 women to detect a similar need for EC in our study population. We assumed that 5% of women would not be able to finish the survey because of potential administrative interruptions, so we aimed to enroll 285 participants.

We tabulated descriptive statistics and conducted bivariate analyses to compare women who were willing to take EC with those who were not using chi-square analysis, Fisher’s exact test, and Student’s *t* test where appropriate. We also performed multivariable logistic regression to assess predictors of accepting EC; our model included variables with *p* values of less than 0.20 in bivariate analysis. We performed all analyses using STATA version 10.0 (College Station, TX).

RESULTS

Demographics and Current Contraception Use

During the study time period, there were 779 intakes of women at the San Francisco County Jail, not including women arrested solely for sex work. Of these, 183 women were ineligible because they were older than 44 (*n*=169), non-English speaking (*n*=10), or unable to consent (*n*=4). An additional 170 women declined enrollment, while 133 were missed due to administrative reasons related to their arrest (*n*=89) or to a research assistant not being present within 24 h of their arrest (*n*=44). Of the 463 eligible women we approached, we enrolled 293 (63%) and excluded three surveys from analysis because women subsequently responded in the survey that they were older than 44. Of the 290 surveys available for analysis, 15 were from women who completed the survey more than one time, during previous arrests.

Eighty-three percent of respondents self-identified as being part of a racial or ethnic minority (Table 1), and two thirds of them had a high school level education or less. The majority of women (69%) had delivered a child, and more than half of them had previously had an induced abortion. Only 32% of the non-pregnant

TABLE 1 Demographic, reproductive, and sexual behavioral characteristics: study of newly arrested women in the San Francisco county jail, 2008–2009

Characteristic	No. (%)
Race and ethnicity ^a	
Black, non-Hispanic	121 (48)
White, non-Hispanic	44 (17)
Hispanic	49 (19)
Mixed	21 (8)
Asian/Pacific Islander	10 (4)
Other	9 (4)
Education	
Less than high school	86 (30)
High school/GED	109 (38)
More than high school	93 (33)
Age, mean (SD) (years)	30 (8)
Parous	199 (69)
Prior induced abortion	160 (55)
Currently pregnant	12 (4)
Currently using contraception ^b	90 (32)
Sterilized ^b	37 (13)
Hormonal contraception (OCs, patch, ring, DMPA) ^b	25 (9)
IUD ^b	20 (7)
Implant ^b	5 (2)
Barrier method, regular use ^b	3 (1)

The mean age of the sample ($n=290$) was 30 years ($SD=8$). Some percentages do not add up to 100 due to rounding

OC oral contraceptive, DMPA depo medroxyprogesterone acetate

^a $N=254$. Race and ethnicity were reported by 254 respondents

^b $N=278$. Excludes pregnant women

women reported that they were currently using a method of contraception, with tubal sterilization being the most common (Table 1).

Eligibility for and Willingness to Take EC

In total, there were 84 women (29%, 95% CI 24–34) who were eligible for EC (see Fig. 1). Half of these EC-eligible women ($n=43$) had ambivalent attitudes about being pregnant, while 23% ($n=19$) expressed negative attitudes and 26% ($n=22$) positive attitudes toward pregnancy. In addition, 43% ($n=36$) of women who qualified for EC had a history of an induced abortion, and 60% ($n=50$) were parous. Some of these EC-eligible women had engaged in sex work in the last 5 days (17%). Forty-four percent reported drug or alcohol use during unprotected sex in the last 5 days, and two (2.4%) women reported being raped in the last 5 days.

Nearly half ($n=40$) of the women eligible for EC reported a willingness to accept EC if offered to them during their jail medical intake. Among all study participants, 14% (95% CI 10–18) both qualified for EC and would take it if offered in jail. Of the women who would not take EC, either because they said no or were uncertain about taking it, the most common reason they cited was “I don’t mind if I get pregnant” (Table 2).

We then compared women who would take EC to those women who would not, either because they did not want to take it or were uncertain. Those who would take

FIGURE 1. Number of women eligible for emergency contraception: study of newly arrested women in the San Francisco county jail, 2008–2009.

EC were less likely to have a misperception about its safety, efficacy, or about it being an abortifacient than women who would not take EC (RR 0.53, 95% CI 0.34–0.84). Being willing to accept EC was also associated with having used it in the past (RR=1.6, 95% CI 1.0–2.4). We observed a trend that women who would take EC were less likely to have personal or religious concerns about it (RR=0.32, 95% CI 0.09–1.1; Table 3). In a multivariable logistic regression model adjusting for past EC use and religious concerns, eligible women without misperceptions about EC were still more likely to report a willingness to take it (OR=0.25, 95% CI 0.08–0.79). There was no correlation between a woman thinking she could have gotten pregnant in the last 5 days and accepting EC. Other demographic, reproductive, and EC-related variables were also not significantly associated with a willingness to take EC.

TABLE 2 Reasons for not accepting emergency contraception among eligible women: study of newly arrested women in the San Francisco county jail, 2008–2009

Reason	No. (%)
Don't mind if get pregnant	16 (36)
Want to talk to clinician first	9 (20)
Worried about side effects	9 (20)
Religious concerns	4 (9)
Partner related reason	3 (7)
Don't like to take medication	1 (2)
Worried about safety	0 (0)
Other	6 (14)

Percentages do not add up to 100 because women could choose multiple responses

TABLE 3 Predictors of accepting emergency contraception among eligible women, bivariate analysis: study of newly arrested women in the San Francisco county jail, 2008–2009

	No. (%)		Prevalence ratio	95% CI	<i>p</i>
	Would take EC (<i>n</i> =40)	Would not take EC (<i>n</i> =44)			
EC misperception ^a	18 (47)	26 (79)	0.53	0.33–.83	0.007
Past EC use ^a	18 (45)	11 (25)	1.6	1.0–2.4	0.05
Personal or religious concerns	2 (5)	10 (23)	.32	0.09–1.1	0.02
Prior abortion	19 (48)	17 (39)	1.2	0.77–1.9	0.41
Parous	23 (58)	27 (61)	0.92	0.59–1.4	0.72
Positive pregnancy attitude	8 (20)	14 (32)	0.70	0.39–1.3	0.22
Ambivalent pregnancy attitude	21 (53)	22 (50)	1.1	0.67–1.7	0.82
Thinks could have gotten pregnant in last 5 days	23 (58)	26 (59)	0.97	0.61–1.5	0.88

^aThese variables were only assessed in the 67 women who had heard of EC

Attitudes Toward and Knowledge of EC

In the overall sample, most (81%) women had heard of EC, and 36% had used it at some point in the past. Despite so many women being aware of EC, 68% had a misperception about EC causing an abortion, being unsafe, or it being ineffective. Less than one quarter (23%) were aware that EC is available over the counter, and only 5% could correctly identify that EC can be taken up to 5 days after unprotected sex. Most women (95%) did not have personal or religious objections to EC. In addition, 71% of all respondents stated that they would be willing to accept advance provision of EC at the time of release.

DISCUSSION

In this cohort of newly arrested, reproductive-aged women, nearly one third had unprotected sex within the 5 days before coming to jail, and half of them would take EC if it were offered to them during the jail medical intake. The strongest predictor of willingness to take EC among women who were eligible was not having a misperception about the medication's efficacy, safety, or it being an abortifacient. These findings indicate that a substantial proportion of women entering jail could benefit from being screened for EC eligibility, receiving education about its risks and benefits, and being offered EC.

At any given time, an estimated 6–10% of incarcerated women are pregnant in the USA.⁷ The timing of when they became pregnant is not known, but many women first discover they are pregnant when they are in jail or prison; it is possible that some of these pregnancies resulted from sexual activity in the days before arrest. The prevalence of abortion while women are in jail or prison is also not known, but Clarke et al.⁷ have reported that incarcerated women have a high rate of prior unintended pregnancies. While previous research has shown that correctional facilities can improve women's access to and utilization of contraception, particularly in preparation for release,¹⁴ our study addresses how jail could address the more immediate, pre-arrest days. Jail is the first point of contact for women in the criminal justice system and thus represents an ideal site for screening and offering public health measures. Our results suggest that an assessment of sexual

activity, pregnancy risk, and pregnancy intention when a woman first enters jail could mitigate the possibility of an undesired pregnancy if emergency contraception were available. This stance is supported by the American Public Health Association whose standards for health care in correctional settings explicitly state that incarcerated women should have access to EC.¹⁵ The American College of Obstetricians and Gynecologists also agrees that EC should be available to incarcerated women.¹⁶ Nonetheless, only 4% of correctional health providers who responded to a national survey said that EC is available at their facilities.¹⁷

While most of our sample had heard of EC before and one third had taken it, more than two thirds of women had misunderstandings about EC's safety, efficacy, or mechanism. This is not surprising since EC misinformation is common in non-incarcerated populations.¹¹ A substantial proportion of women in our study also indicated their willingness to accept advance provision of EC upon release, which could benefit them as they are transitioning back into mainstream society.

Interestingly, pregnancy attitudes, as they were assessed in this study, did not correlate with a woman's willingness to take EC. There was also no association between willingness to accept EC and a woman thinking that she could have gotten pregnant from unprotected sex in the last 5 days, nor was having children or having had an abortion predictive of willingness to take EC. These findings are in contrast to studies of non-incarcerated women in which women who took EC were more likely to state that they wanted to avoid pregnancy and to have had an abortion in the past.^{18,19} It is possible that the circumstance of recent incarceration may add another dimension to a woman's decision to take EC, in addition to considerations of pregnancy intention. For instance, a woman may desire to be pregnant when she is in the community, but once she becomes housed in jail, she may feel differently. One could also imagine another scenario where a woman may not desire to be pregnant until she gets arrested and has access to prenatal care while in jail. These complicated issues of pregnancy desires and intentions have not been explored in this context, but merit further investigation through qualitative research.

Our data suggest that counseling incarcerated women about EC should not be guided solely by women's pregnancy history or simply stated pregnancy attitudes. Rather, their desire to take EC should be explored on an individual basis. This is especially important given incarcerated women's potential vulnerability and the historical context of coercive contraception and sterilization provision among incarcerated populations.²⁰

Making EC available in jails could have important implications for an individual woman while also potentially being cost-saving for the jails which care for these women. One dose of Plan B, the only dedicated EC product in the US, costs \$48, which is substantially less expensive than prenatal or abortion care. If 29% of all 2.6 million women arrested in this country were eligible for EC at the time of their arrest, then 750,000 women each year could potentially benefit from EC at jail intake. Without EC, an estimated 8% of these 750,000 women,²¹ or 60,000, could become pregnant from having unprotected intercourse pre-arrest. EC can reduce the chances of pregnancy after unprotected sex from 8% to 1%,^{9,21} which could translate into an estimated 52,500 pregnancies prevented annually in the USA.

The demographic characteristics of our sample are similar to the larger population of incarcerated women in the USA who are, in general, of reproductive age, poorly educated, and from racial and ethnic minorities. Likewise, the reproductive health and contraceptive characteristics of these women are similar to the incarcerated women studied in Rhode Island by Clarke et al.⁷ Given the

representativeness of our sample, our results are likely widely applicable to newly arrested women in similar urban centers across the USA.

A few limitations should be addressed. Because of limitations designed to protect prisoners as research subjects, we were unable to ascertain information about non-participants other than there being no trend in the time of day when non-participants were arrested. We thus cannot determine if non-participants had a different need for EC than those who agreed to be in the study. Second, because women self-reported their sexual behaviors, there was potential for social acceptability bias in their responses, and some women may have underreported the frequency of unprotected sex. If this bias were present, our results would be an underestimate, and more women would have qualified for EC. In addition, we used ACASI which has been shown to improve the accuracy of information on sensitive topics like sexual behaviors. While we emphasized to subjects that their participation would not affect their processing through the jail system, it is possible that some women may have perceived their participation in other ways, which could have affected their approach to the survey. Another potential source of sampling bias was the exclusion of women arrested solely for sex work. This restriction could have biased our estimates of EC eligibility in either direction. Some studies have shown that sex workers have a high frequency of unprotected sex,²² while others have shown these women to be fastidious users of condoms.²³ Not including these women may limit the ability to generalize our findings to all women who are arrested. This population would benefit from future research investigating the role of EC in their unique context.

In the days immediately before being arrested, many women engage in sexual behaviors which put them at risk for unintended pregnancies. Their initial medical screen in jail thus presents a public health opportunity for women who have had recent unprotected sex and who want to avoid pregnancy. As part of the comprehensive health care that women have access to in correctional facilities, they should be screened for, educated and counseled about, and offered emergency contraception. By addressing the reproductive health needs of this marginalized, high-risk population, the provision of EC to incarcerated women could help contribute to the larger goal of reducing health disparities in the USA.

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