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Contraceptive use and method choice among women with opioid and other substance use disorders: A systematic review

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ABSTRACT

Aim. To systematically review the literature on contraceptive use by women with opioid and other substance use disorders in order to estimate overall contraceptive use and to examine method choice given the alarmingly high rate of unintended pregnancy in this population.

Method. Pubmed (1948–2014) and PsycINFO (1806–2014) databases were searched for peer-reviewed journal articles using a systematic search strategy. Only articles published in English and reporting contraceptive use within samples of women with opioid and other substance use disorders were eligible for inclusion.

Results. Out of 580 abstracts reviewed, 105 articles were given a full-text review, and 24 studies met the inclusion criteria. The majority (51%) of women in these studies reported using opioids, with much smaller percentages reporting alcohol and cocaine use. Across studies, contraceptive prevalence ranged widely, from 6%–77%, with a median of 55%. Results from a small subset of studies (N = 6) suggest that women with opioid and other substance use disorders used contraception less often than non-drug-using comparison populations (56% vs. 81%, respectively). Regarding method choice, condoms were the most prevalent method, accounting for a median of 62% of contraceptives used, while use of more effective methods, especially implants and intrauterine devices (IUDs), was far less prevalent 8%.

Conclusions. Women with opioid and other substance use disorders have an unmet need for contraception, especially for the most effective methods. Offering contraception services in conjunction with substance use treatment and promoting use of more effective methods could help meet this need and reduce unintended pregnancy in this population.

Introduction

Drug and alcohol use are common among women of reproductive age (15–44 years). In the US, 11% report illicit drug use in the past month, with marijuana and opioids accounting for the overwhelming majority of this use (Substance Abuse and Mental Health Services Administration, 2014). Twenty-five percent of US women of reproductive age also report binge alcohol use in the past month, with 5% meeting criteria for heavy alcohol use (Substance Abuse and Mental Health Services Administration, 2014). Worldwide, nearly 16 million are estimated to be dependent on illicit drugs (Degenhardt et al., 2013) and an estimated 63 million have an alcohol use disorder (Rehm et al., 2009).

Drug and alcohol use by women of reproductive age are associated with many negative outcomes, but one that has received relatively little attention is the high rate of unintended pregnancy. For example, unplanned pregnancy rates approach 8 of every 10 pregnancies among opioid-using women (Black et al., 2012; Heil et al., 2011; Jones et al., 2011) and women with substance use disorders have significantly greater odds of an unintended pregnancy as compared to non-drug-using women (Than et al., 2005; Wellings et al., 2013). Together, these results suggest that women with substance use disorders may have an unmet contraceptive need.

Contraceptive need can be met by a variety of contraceptive methods, however the effectiveness of these methods varies widely. For example, the World Health Organization divides contraceptive methods into four tiers of effectiveness (WHO, 2007). In the top tier are the "very effective" methods of implants, intrauterine devices (IUDs), and tubal ligation. Fewer than 1% of women using one of these methods will become pregnant in the first year of typical use because these methods do not require any additional effort on the part of the user to maintain maximum effectiveness. [Of note, because implants and IUDs provide protection for up to 10 years, but removal results in

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a rapid return of fertility, they are often grouped together and referred to as long-acting reversible contraceptives or LARCs.] In the second tier are the "effective" methods of depot injections, oral contraceptive pills, vaginal rings, and transdermal patches. Between 1 and 9% of women using one of these methods will become pregnant because their effectiveness is dependent upon continued effort by user, from taking a pill every day to getting an injection every three months, to prevent a return to fertility. In the third tier are the "moderately effective" methods of condoms, diaphragms, sponges, and fertility awareness methods (10–25% pregnancy rates) and in the fourth tier, the "less effective" methods of spermicides and withdrawal (≥26% pregnancy rates). The methods in the third and fourth tiers are less effective than methods in higher tiers because their effectiveness is dependent upon continued effort by the user and this effort is needed at or around the time of intercourse, when contraceptive decision-making is likely impaired by sexual arousal (e.g., Ariely and Loewenstein, 2006).

Assessing overall contraceptive use and specific method choice among women with opioid and other substance use disorders is difficult using standard epidemiological approaches. National-level surveys of drug use epidemiology rarely capture contraception data, and contraceptive use and method choice surveillance surveys rarely include questions about drug or alcohol use. Hence, a systematic review of the published literature was undertaken to estimate overall contraceptive use and to examine method choice among women with opioid and other substance use disorders given the alarmingly high rate of unintended pregnancy in this population.

Methods

Pubmed and PsycINFO were searched through August 21, 2014. The keywords and search strategy are described in Table 1. The first aim of the review was to describe prevalence of contraceptive use among women with opioid and other substance use disorders. The second aim was to describe method choice among contraceptive-using women in this vulnerable population. Thus, to be included in the present review, studies must have 1) reported contraceptive use, and 2) had a population comprised of at least 50% women with opioid and other substance use disorders, meaning actively using drugs and/or alcohol or in drug treatment. So as not to underestimate contraceptive use, contraceptive prevalence was calculated from the proportion of the study population who were at risk of pregnancy (i.e., those not pregnant, nor premenopausal, and without a history of hysterectomy at the time when contraceptive use was assessed). Comparison prevalence (either for contraceptive use or method choice) was reported when included in the original study. Although no geographic restrictions were placed, the search strategy was limited to English language articles.

All authors independently screened all abstracts for inclusion, and any disagreement led to the retrieval of the full text article. Full text articles were screened and extracted into premade data inclusion sheets by one author and verified by another author. All disagreements were resolved by consensus. PRISMA guidelines were followed for the review (Moher et al., 2009).

Meta analysis was precluded by heterogeneity in how contraceptive use and method choice were reported across studies. Medians and ranges are presented since the data were not normally distributed.

Table 1
Literature search terms.

Database	Years included	Search terms
Pubmed	1948 to August 2014	1 Contraception Behavior/ or Contraception/ or Contraception, Barrier/ or contraception.mp. 2 family planning services.mp. or Family Planning Services/ 3 1 or 2 4 substance related disorders.mp. or Substance-Related Disorders/ 5 substance abuse.mp. or Substance-Related Disorders/ 6 Alcohol Drinking/ or Behavior, Addictive/ or Alcoholism/ 7 Cocaine-Related Disorders/ or Heroin Dependence/ or addiction.mp. 8 4 or 5 or 6 or 7 9 3 and 8 10 limit 9 to (english language and humans)
PsycINFO	1806 to August 2014	1 family planning.mp. or Family Planning/ 2 birth control.mp. or Birth Control/ 3 contraception.mp. 4 1 or 2 or 3 5 Drug Addiction/ or Addiction/ or Heroin Addiction/ or addiction.mp. 6 alcoholism.mp. or Alcoholism/ 7 drug usage/ or drug self administration/ or needle sharing/ 8 Crack Cocaine/ or Cocaine/ 9 5 or 6 or 7 or 8 10 4 and 9 11 limit 10 to (human and english language)

Results

Literature search

As shown in Fig. 1, our search strategy retrieved 580 abstracts of which 105 were selected for full text review (103 from the abstract list and 2 from the authors' personal collections that were not identified in the search). Twenty-four articles were included in the final review. The most common reason for exclusion at both the abstract and full-text review stage was lack of data on contraceptive use.

Study publication date, location, population and population size, details of drug use, and comparison population (where applicable) are presented in Table 2. The 24 included studies assessed more than 5000 women with drug and alcohol problems and were published over a 40-year period between 1972 and 2012, with two reports in the first decade, two in the second decade, five in the third decade, and 15 in the fourth decade. The studies took place in seven different countries: United States (10), Australia (5), England (3), Canada (2), France (2), Finland (1), and Russia (1). Nine studies collected data from women in substance abuse treatment (including White et al., 1993 whose population also include needle exchange clients), seven from women using drugs or alcohol but not in drug treatment (including a subset of women from Toffol et al., 2011), and eight from other populations where >50% of the group reported drug and alcohol use (i.e., street-based female sex workers, chronically homeless women, incarcerated women, or women living with HIV or hepatitis C). Of note, fourteen studies included details about the specific type of drug(s) used, with more than half (51%) of the women in these studies reporting opioid use and much smaller percentages, alcohol and cocaine.

Prevalence of contraceptive use

Women with opioid and other substance use disorders

Table 3 outlines time frames of assessment and prevalence of contraceptive use. Prevalence of contraceptive use was assessed using seven different time frames: current (7), past/typical month (5), past 3 months (3), past 6 months (2), past year (2), lifetime (1), or not reported (4). As noted previously, prevalence of contraceptive use in each study was calculated for women with contraceptive need and details regarding these calculations are also presented in Table 3. Overall, prevalence of contraceptive use varied greatly between studies. The lowest reported prevalence was 6%, though this small (n = 18) study only reported the proportion of women who were using "reliable contraception" and noted that "condoms were occasionally used by all women, although unprotected intercourse was the norm" (Creighton et al., 2008). The highest reported contraceptive use prevalence was 77%. The remaining studies reported between 25% and 74% of women with opioid and other substance use disorders were using any contraceptive, with an overall median of 55%.