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Receiving versus being denied an abortion and subsequent drug use

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ABSTRACT

Background: Some research finds that women receiving abortions are at increased risk of subsequent drug use and drug use disorders. This literature is rife with methodological problems, particularly inappropriate comparison groups.

Methods: This study used data from the Turnaway Study, a prospective, longitudinal study of women who sought abortions at 30 sites across the U.S. Participants included women presenting just prior to an abortion facility's gestational age limit who received abortions (*Near Limit Abortion Group*, $n = 452$), just beyond the gestational limit who were denied abortions (*Turnaways*, $n = 231$), and who received first trimester abortions (*First Trimester Abortion Group*, $n = 273$). This study examined the relationship between receiving versus being denied an abortion and subsequent drug use over two years. Trajectories of drug use were compared using multivariate mixed effects regression.

Results: Any drug use, frequency of drug use, and marijuana use did not change over time among women in any group. There were no differential changes over time in any drug use, frequency of drug use, or marijuana use between groups. However, *Turnaways* who ultimately gave birth increased use of drugs other than marijuana compared to women in the *Near Limit Abortion Group* ($p = .041$), who did not increase use.

Conclusion: Women receiving abortions did not increase drug use over two years or have higher levels of drug use than women denied abortions. Assertions that abortion leads women to use drugs to cope with the stress of abortion are not supported.

1. Introduction

In the U.S., groups seeking to dissuade pregnant women from having abortions inform women that having an abortion leads women to use drugs to cope with the stress of an abortion. (Bryant and Levi, 2012). Evidence for such claims comes from a small body of research that assesses abortion and subsequent drug use. This research generally finds that women receiving abortions have higher rates of drug use and drug use disorders than women with no previous pregnancies or previous pregnancies ending with live births (Coleman et al., 2005, 2002; Dingle et al., 2008; Fergusson et al., 2008; Pedersen, 2007). However, this literature is rife with methodological problems (Major et al., 2009). Methodological weaknesses of these studies, like the limitations of studies on abortion and mental health more broadly, include use of comparison groups inappropriate to the study of the effect of abortion among women with unwanted pregnancies (e.g., women who had never been pregnant or who had a wanted child); failure to account for drug use prior to pregnancy, which could be associated with both abortion seeking and subsequent drug use; and underreporting of abortion, which could bias results (Major et al., 2009; Steinberg and Finer, 2011).

Some authors of studies that find higher levels of drug use among women who have had abortions have interpreted their findings as evidence that women use drugs to cope with the stress of an abortion (Reardon et al., 2004). This explanation overlooks other plausible interpretations. For example, drug use is the reason some women decide to terminate pregnancies (Roberts et al., 2012), so women already using drugs may be over-represented among women having abortions. Additionally, some pregnant women may cease drug use based on concerns about effects of drug use on fetal health and fear of having a child removed by Child Protective Services due to maternal drug use (Roberts and Pies, 2011). Research examining changes in women's drug use during pregnancy also finds that women tend to cease use during pregnancy, with many (but not all) resuming use soon after giving birth (Bailey et al., 2008; Barnet et al., 1995; Gilchrist et al., 1996; Hayatbakhsh et al., 2011; Morrison et al., 1998; Substance Abuse and Mental Health Administration, 2009; Spears et al., 2010). If some women sustain cessation over time, this could result in a lower level of drug use. A sustained reduction in alcohol use related to the transition to parenting has been consistently found (Chilcoat and

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Breslau, 1996; Hajema and Knibbe, 1998) and may also be the case for drug use disorders (Ahlstrom et al., 2001; Chilcoat and Breslau, 1996; Christie-Mizell and Peralta, 2009; Fergusson et al., 2012; Hajema and Knibbe, 1998; Paradis, 2011). Higher levels of subsequent drug use among women having an abortion, therefore, could simply reflect decreases among pregnant and parenting women rather than increases among women having an abortion.

Given the flaws in existing literature, conceptually and methodologically sound research is essential to validly examine the effect of abortion on subsequent drug use. It would be unethical to randomize women with unwanted pregnancies to have or not have an abortion. However, without randomization, it can be difficult to identify and control for factors that may lead women to become pregnant or decide to terminate an unwanted pregnancy and that may also affect drug use. This study includes only women who were seeking abortion and compares those receiving to those denied abortion, a comparison group recommended in the literature (Charles et al., 2008; Fergusson et al., 2013). The fact that women in the comparison group were also seeking abortion helps control for important factors, such as pregnancy intentions, that lead women to become pregnant or to decide to terminate versus carry a pregnancy. In addition, the policy and health care question that we aim to explore is not whether women who have had abortions have a different health behavior profile than other women, but rather whether providing wanted abortions, versus denying abortions, affects subsequent drug use.

Thus, the main goal of this paper is to examine the relationship between receiving versus being denied abortion and trajectories (or changes over time) of drug use from one-week through two-years after seeking abortion. We hypothesized that: (1) women receiving abortions would have higher levels of drug use than women denied abortions one week after seeking abortion, when women denied abortions were still pregnant; (2) women receiving abortions would maintain this higher level of drug use over time; (3) women denied abortions would increase drug use from one week after seeking abortion, but not return to the same level as women receiving abortions.

Data for this paper are drawn from the Turnaway Study, a five-year prospective study assessing effects of receiving versus being denied abortion on women's physical and mental health and socioeconomic well-being. Because it is unethical to randomize women with unwanted pregnancies to abortion, the study design takes advantage of a natural experiment. The design involved recruiting women with unwanted pregnancies who all sought, but did not all receive, abortions at 30 facilities across the U.S. Some were denied abortion because they presented just beyond a facility's gestational age limit for providing abortion; others received abortions after presenting just under the gestational limit.

Ninety percent of abortions in the U.S. occur in the first trimester (Pazol et al., 2011). However, the large majority of participants in the group receiving abortions just under gestational limits received abortions in the second trimester. In addition, the American Psychological Association systematic review of the literature on abortion and mental health limited their conclusion that the best scientific evidence indicates that abortion is not associated with increased risk of subsequent mental health problems to the first trimester (American Psychological Association Task Force on Mental Health and Abortion, 2008). The limited research on effects of later abortion has primarily been conducted with women seeking abortion because of fetal anomaly (Steinberg, 2011). As women having abortions because of fetal anomalies may differ in factors, such as wantedness of pregnancy, from women having abortions for other reasons, it is not clear that this research applies to women receiving later abortions for reasons other than fetal anomalies. Therefore, as a secondary aim, we compared drug use among women receiving abortions near gestational limits to women receiving first trimester abortions to assess whether experiences after near gestational limit abortions are typical and assess differences after later versus first trimester abortions.

2. Methods

2.1. Data source

The Turnaway Study was approved by the University of California, San Francisco Committee for Human Research. Study design details have been published elsewhere (Roberts et al., 2012; Rocca et al., 2013; Upadhyay et al., 2013). Study participants included English- and Spanish-speaking women aged 15 or older, with no known fetal anomalies or demise, presenting for abortion at one of 30 facilities throughout the U.S. between January 2008 and December 2010. Study groups included (1) Near Limit Abortion Group: women presenting for abortion within two weeks under a facility's gestational age limit and receiving abortions; (2) Turnaways: women presenting up to three weeks over a facility's gestational limit and denied abortion; and (3) First Trimester Abortion Group: women under the limit, in their first trimester, and receiving abortions. The Near Limit Group, Turnaways, and First Trimester Group were recruited in a 2:1:1 ratio. We anticipated that relatively few women would meet the eligibility criteria for Turnaways. Thus, to ensure that the overall sample was large enough for analysis without being restricted by the lower number of women eligible for Turnaways, we enrolled twice as many Near Limits as Turnaways. In addition, as women seeking later abortions are an understudied group, we wanted to have an adequate sample of Near Limit Abortion Group to conduct additional analyses about their experiences with abortion care (not included in this paper).

Gestational limits for providing abortion vary across facilities, due to state-level restrictions and to facility factors (e.g., training of providers, institutional limits, staff preferences). Facilities could participate in the Turnaway Study if no other facility within 150 miles had a later gestational limit. Facilities were identified using the National Abortion Federation directory and contacts within the abortion research community. Of facilities selected, all but two agreed to participate. One facility was replaced with a facility with an identical catchment area, identical gestational limit, and similar patient volume. Recruitment facilities had gestational limits from 10 weeks through the end of the second trimester. Facility descriptions have been published previously (Gould et al., 2012).

2.2. Participation

Of eligible participants approached, 37.5% ($n = 1132$) consented to participate in the five-year telephone interview survey. Of those consenting, 85% ($n = 956$) participated in the baseline interview. There was no differential participation by study group. The overall study sample includes 452 Near Limit Abortion, 231 Turnaway, and 273 First Trimester Abortion participants. Seventy-six participants from one facility were removed from analyses because more than 90% of Turnaways at that facility received abortions elsewhere after enrollment. That facility had a 10-week gestational limit. An additional two Near Limit and one First Trimester participants later reported that they had not had the abortion and were excluded from analyses. The final sample is 413 Near Limit Abortion, 210 Turnaways (49 of whom had an abortion or miscarriage subsequent to being turned away), and 254 First Trimester.

2.3. Data collection

The Turnaway Study is ongoing, interviewing participants by telephone every six months for five years. Baseline interviews were scheduled eight days after women sought abortions. Analyses for this paper include data collected at baseline, 6-month, 1-year, 18-month, and 2-year interviews. Baseline interviews were completed in December, 2010 and 2-year follow-ups in January, 2013.

2.4. Participant retention

Of participants completing the baseline interview, 92% were retained at 6-months and 77% at 2-years. There was no differential attrition among study groups or by baseline drug use.

2.5. Measures

2.5.1. Drug use outcomes. Any drug use is a dichotomous variable of any drug use the month prior to the interview. *Drug frequency* is an ordinal variable of frequency of use the prior month (no use, <1x/week, ≥1x/week). *Drug type* is a nominal variable of type of drug used the prior month (no use, marijuana use only, other drug use [amphetamines, cocaine, heroin, or prescription drug misuse] with or without marijuana). Marijuana is considered separately from other drugs based on previous research (Reardon et al., 2004) and because most studies find no association between marijuana during pregnancy and preterm birth and low birthweight (Bada et al., 2005; Behrman and Stith Butler, 2007; English et al., 1997; Schempf, 2007; van Gelder et al., 2010). The baseline interview also included questions about drug use the month before pregnancy recognition.