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Reasons for ineffective pre-pregnancy contraception use in patients seeking abortion services

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Abstract

Background—We sought to better understand reasons for not obtaining desired contraception among women presenting for a pregnancy termination.

Study design—A survey was completed by women prior to having an abortion procedure. Reasons for lack of access were categorized as institutional, individual and compliance issues. Descriptive statistics were calculated and variables compared using chi-square tests.

Results—Participants (n=298) ranged in age from 18–48 years. One third reported contraceptive use prior to pregnancy (37%). Approximately 72% of women reported some reason for not obtaining desired contraception, while 34% reported 2 or more. The distribution of reported individual, institutional, and compliance reasons were 44%, 28%, and 24%, respectively. Report of at least one reason was associated with a 35% increase in non-use (RR=1.35, 95% CI 1.02–1.80) after adjusting for age, race, education, parity and prior abortion.

Conclusions—Many reasons for not obtaining desired contraception exist and are associated with non-use of contraception. Removing these reasons may help reduce unintended pregnancies and rates of pregnancy termination.

Keywords

contraception; pregnancy termination; health disparities; race; women's health; gynecology

1. Introduction

Despite safe and effective contraception in the United States, contraception non-use and inconsistent use are prevalent among women not desiring pregnancy. In fact, over half of unintended pregnancies occur among women not using contraception preconception [1]. An additional 40% of unintended pregnancies occur among women using their contraception method inconsistently or incorrectly [1].

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The U.S. has one of the highest unintended pregnancy rates among developed countries [2]. In fact, recent reports indicate that one-half (49%) of all pregnancies in the U.S. are unintended [3], and approximately 80% of teenage pregnancies are unintended [2]. Roughly half of the unintended pregnancies in the U.S. end in abortion [3]. The U.S. teen pregnancy rate, despite recent declines, remains the highest among the most developed countries in the world [2].

Unintended pregnancies and subsequent abortions have a notable impact on society. Both are more common among young, unmarried, low-income, and educationally disadvantaged women [4]. Furthermore, unintended pregnancies are associated with negative prenatal parental behavior and negative health and social outcomes for both mother and child [3].

The consistently high level of unintended pregnancy and subsequent abortion can be explained, in part, by the barriers women face when obtaining their desired birth control method [1, 3, 4]. These barriers, or reasons for not obtaining desired contraception, include limited knowledge and access to the most effective methods available, especially methods that do not require daily or weekly compliance. The purpose of this study was to determine the contraceptive methods used at the time of unintended pregnancy and identify potential obstacles to contraceptive access. Specifically, women seeking an abortion were asked to record what prevents them from obtaining their desired contraception. These reasons were assessed using a cross-sectional survey in order to fully address issues surrounding access to contraception.

2. Materials and methods

This study was conducted as a preliminary survey during the planning phase of a large prospective cohort study, the Contraceptive CHOICE Project. Participants in this survey were recruited from women seeking abortion services at a single clinic that provides medical and surgical abortions. Women were eligible if English-speaking, 18 years of age or older, and willing to complete the survey. Eligible participants were given a 2-page survey at check-in for their pre-procedure visit; a visit that is required by Missouri law and must occur a minimum of 24 h before any procedure. The survey described the purpose of the study and explained that participation was voluntary and anonymous, and would not affect the services that the woman would receive. The survey included self-reported questions regarding contraception use and reasons for not obtaining and/or using the desired contraceptive method prior to conception. Data collection occurred from April through June 2007. This study was approved by the Washington University in St. Louis Human Research Protection Office.

2.1. Procedure

Participants were instructed to complete the section of the survey regarding contraception use and reasons for not obtaining desired contraception. Specifically, participants indicated whether or not they were using birth control at the time of conception. Survey participants reporting contraception use prior to conception then indicated their method(s) of contraception. Methods of contraception included: condoms, birth control pills, contraceptive vaginal ring, depo-medroxyprogesterone acetate (DMPA) injection, birth control patch, intrauterine device (IUD), withdrawal, rhythm or natural family planning, emergency contraception, and other. Because of high failure rates with typical use, withdrawal, rhythm or natural family planning, and emergency contraception were not considered effective methods of contraception in this analysis. Short-acting hormonal contraception was defined as use of birth control pills, patch, ring or DMPA.

Participants were asked to identify specific reasons for not obtaining their desired birth control method. Participants were allowed to select as many reasons as were applicable. Reasons associated with lack of access were categorized into three groups: *institutional*, *individual*, and *compliance*. *Institutional* reasons included did not know how to get, too expensive, too hard to get, and needed a prescription. *Individual* reasons included worry about side effects, worry about weight gain, partner did not want, family did not want, had side effects in the past, and that participant did not think she could get pregnant. *Compliance* reasons included too hard to remember or that participant was not planning to have sex (e.g., factors related to a women's imperfect or lack of use).

After the participant completed her survey, a study representative or clinician completed the second section of the survey. This section included questions regarding basic demographic characteristics of the participant, clinician assessment of contraceptive use, and a brief reproductive history of the participant.

2.2. Statistical analyses

Descriptive statistics were calculated and variables were compared using chi-square tests. Participants that did not complete the portion of the survey pertaining to why they did not obtain desired contraception were excluded from this analysis. The odds ratio for no contraception prior to pregnancy was estimated using log binomial regression. When an outcome is common (>10%), this approach yields an unbiased estimate of the relative risk [5]. Analyses were performed using SAS, version 9.1 (SAS Institute, Cary, NC).

3. Results

Two hundred and ninety-eight surveys were collected from April 23, 2007, through June 15, 2007. Those that completed the survey were similar in race, education, parity, and abortion history compared to the general clinic population. Forty-one percent of those seeking services at the clinic were black, 47% had graduated high school and 33% completed some college or more. Forty-two percent of the patient population had a parity of 0, 27% had a parity of 1 and 31% had a parity of 2 or more. Forty-two percent of the patient population were presenting for a repeat abortion. There was a slight difference in the age of study participants compared to the patient population since only women over 18 were eligible to complete the survey. Thirty-seven surveys were excluded from analyses because the section of the survey regarding reasons for not obtaining desired contraception was not filled out. Women with this section of their survey not completed did not differ significantly by age, race, education, gravidity, parity or prior abortion from those with complete survey information.

Participant characteristics are shown in Table 1. Participants had a median age of 24 years; 13% were 18–19 and 39% were 20–24 years of age. Respondents were from diverse backgrounds: 42% were white, 43% black, 2% Asian, and 13% reported some other racial background. In addition, approximately 1% of participants were of Hispanic ethnicity. Respondents were well educated: 58% completed some college or more, 29% graduated high school and only 12% completed less than high school. Forty percent of women had been pregnant 2–3 times including their current pregnancy. The maximum number of reported pregnancies per individual was 10. Forty percent of participants were seeking a repeat abortion.

Thirty-seven percent of respondents reported use of at least one effective method of contraception prior to pregnancy (Table 1). Condoms were the most common method of contraception and their use was reported by 28% of participants. Thirteen percent of participants reported some form of short-acting hormonal contraception use. Oral

contraceptive pill use was reported by 10% of women. Other short-acting hormonal methods reported were the contraceptive vaginal ring, patch and DMPA (1.5%, 1.2% and 0.0%, respectively). One participant reported intrauterine contraception use. Use of effective methods of contraception prior to pregnancy did not vary significantly by age, race, education, gravidity, parity or history of abortion.

Participant characteristics did not significantly differ among those not reporting any reasons and those reporting at least one reason for not obtaining desired contraception (Table 1). Obstacles to contraceptive access were reported by most participants (see Fig. 1). Seventy-eight percent of women reported at least one reason for not obtaining desired contraception, while 49% reported 2 or more reasons. The maximum number of reasons reported was 8. Women who reported no contraception use had a slightly higher mean number of reasons than those reporting contraception use (1.8 vs. 1.5 reasons; $p=0.09$), but this difference was not statistically significant. After adjusting for age, race, education, parity and prior abortion, the report of any obstacles to obtaining contraception was associated with a 35% increase in non-use of contraception compared with those reporting no obstacles ($RR=1.35$, 95% CI 1.02, 1.80). Women reporting reasons for not obtaining desired contraception were less likely to have used short-acting hormonal birth control pre-pregnancy.

The most frequently reported reasons for not obtaining desired contraception included worry about side effects, worry about weight gain and cost. Half of women reported at least one individual reason for not obtaining contraception, while 32% reported an institutional reason and 28% reported a compliance related reason. No significant differences were observed among the participants' demographic characteristics or reproductive history and the type of reason reported (Table 2). A history of abortion was not significantly associated with type of reason reported. Those reporting *individual* reasons were less likely to have used short-acting hormonal contraception pre-pregnancy compared to those not reporting *individual* reasons ($p<0.01$). Increasing parity was associated with increased report of *institutional* reasons ($p=0.04$).

4. Discussion

Among women presenting for an elective abortion, over half of women were not using an effective method of contraception at the time of conception. Obstacles to obtaining desired contraception were diverse, and the report of at least one reason for not obtaining desired contraception was associated with a 35% increase in non-use of contraception compared to those with no reasons.

Whereas 34% of study participants reported using a contraceptive method preconception, a nationally representative study of 10,683 women having abortions reported 54% of women used a contraceptive method in the month they conceived [6]. The difference in findings is less striking when you consider our definition included only effective methods of contraception. When we expand our definition of contraception to include withdrawal, rhythm method and natural family planning, approximately 49% of study participants reported some attempt to prevent pregnancy. Reported rates of pill and condom use, the two most common methods in our study, were comparable with this nationally representative sample. Both studies reported condom use rates of 28% and our study found a similar rate of birth control pill use (10% vs. 13.6%).

Many of the reasons reported in our study population were more prevalent than found in other studies of women at risk of unintended pregnancy. The California Women's Health Survey evaluated the use of contraception and risk of pregnancy among women 18 years and older living in California. The survey found that 20% of respondents were concerned about

side effects, and 4% felt they could not get pregnant [7]; whereas in our study, 36% of participants were concerned about side effects and 18% thought they could not get pregnant. The difference in findings may be due to the timing of reported reasons - women undergoing an abortion procedure may recall more reasons than those at risk of an unintended pregnancy, given they have recently experienced an unintended pregnancy. Our findings were supported by another study that looked at contraception use among women having an abortion [6]. Both studies found high rates of reported reasons; we observed slightly more reported reasons due to side effects (36% vs. 23%) and fewer reasons due to beliefs that she could not get pregnant (18% vs. 28%) or was not planning to have sex (14% vs. 26%) [6]. One in 4 women were concerned about the cost of obtaining contraception, a proportion notably higher than 4–8% of participants in the Foster et al. [7] and Jones' et al. [6] studies. Differences in cost obstacles may be due to the time in which the studies were conducted (2007 versus 1998 to 2001); price increases for contraceptive methods were enacted subsequent to the Deficit Reduction Act of 2005.

Our study has a number of limitations. First, we have no data regarding how many patients refused to complete the survey and their characteristics. In this analysis we examined whether any reason for not obtaining desired contraception was associated with contraception used prior to pregnancy. Although it would have been informative to examine whether this association was stronger among women with multiple reasons, we were limited by our sample size. Although pregnancy intention and ambivalence have been shown to be strongly associated with use of contraception [8], we did not include these measurements in our survey and cannot account for their association with contraceptive use in our analyses. However, it can be assumed that intention among this study population was low; data from the National Survey of Family Growth suggests that only 4–8% of abortions result from intended pregnancies [3]. Finally, since our primary objective in this study was to estimate overall contraceptive use prevalence we were not powered to test for differences in contraceptive prevalence among subgroups.

Despite these limitations, our study also had a number of strengths. While a convenience sample, the demographic characteristics of participants were quite diverse and women of different racial and socioeconomic backgrounds were represented. Given our comparability with other representative studies of abortion patients, our study may be generalizable to similar clinical populations. Finally, previous studies have limited measuring obstacles to contraception among women reporting non-use; our study included all women regardless of method and consistency of use.

While many studies have described the obstacles to contraception access, more studies are needed that describe the prevalence of these obstacles and their potential consequences. In 2007, Ayoola et al. [9] conducted a systematic review of reasons for unprotected intercourse in adult women who did not desire pregnancy. Of the 16 studies they reviewed, there was significant diversity in study design (quantitative vs. qualitative), sampling strategy, sample size, and use of comparison group. Fifty percent of studies were qualitative and/or did not have comparison groups and 63% of studies had less than 100 participants.

Understanding obstacles to contraception access and consistent use beyond just individual reasons can better inform clinical practice and suggest opportunities for policy change. One-third of women reporting some preconception contraception and 47% of women not using contraception reported one or more reasons, suggesting that even among women using contraception, there may be interest in more effective forms of contraception. Modification to the information provided during counseling sessions may impact a woman's contraceptive method choice. The counseling sessions may provide the opportunity to educate women on recent improvements and new technology (e.g., long-term reversible contraceptive

methods.) These modern contraceptives offer hope of greater acceptance and effectiveness—yet, only 2.1% of women use IUDs in the United States [10]. Another avenue for improving use of contraception and reducing unintended pregnancy is to reduce the institutional obstacles to their use. Multiple studies have documented that improving affordability is effective in reducing unintended pregnancy and is cost-effective [11–13]. Opportunities for institutional level change include broader insurance coverage for contraception and over-the-counter access. Contraceptive method compliance is a complex and dynamic process that balances institutional, individual, and compliance factors. Future intervention studies should assess whether removing obstacles to obtaining desired contraception can improve contraception use and reduce unintended pregnancies.

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Table 1

Participant characteristics by number of reasons reported

Characteristic	All		Any reasons		No reasons		p-value
	n	%	%	%	%		
Age, years							
18–19	35	13.4	13.2	14.4	0.97		
20–24	101	38.7	39.2	36.8			
25–29	64	24.5	24.5	24.6			
30–48	37	14.2	13.7	15.8			
Missing	24	9.2	9.3	8.8			
Race							
White	109	41.8	39.2	50.9	0.29		
Black	113	43.3	45.1	36.8			
Other/Unknown	39	14.9	15.7	12.3			
Education							
Less than high school	30	11.5	11.3	12.3	0.63		
Graduated high school	75	28.7	27.5	33.3			
Some college or more	151	57.9	59.3	52.6			
Missing	5	1.9	2.0	1.8			
Gravidity							
1	57	21.8	20.6	26.3	0.17		
2–3	105	40.2	39.2	43.9			
4–10	72	27.6	30.4	17.5			
Missing	27	10.3	9.8	12.3			
Parity							
0	92	35.2	32.4	45.6	0.12		
1	69	26.4	27.9	21.1			
2–6	73	28.0	29.9	21.1			
Missing	27	10.3	9.8	12.3			
Previous spontaneous abortion*							
No	209	80.1	78.9	84.2	0.12		

Characteristic	All		Any reasons		No reasons		p-value
	n	%	n	%	n	%	
Yes	25	9.6	11.3	3.5			
Missing	27	1.0	9.8	12.3			
Repeat abortion							
No	130	49.8	47.6	57.9	0.09		
Yes	104	39.8	42.7	29.8			
Missing	27	10.3	9.8	12.3			
Previous surgical abortion							
No	133	51.0	49.0	57.9	0.14		
Yes	101	29.8	38.7	41.2			
Missing	27	10.3	9.8	12.3			
Previous medical abortion *					0.41		
No	225	86.2	87.3	82.5			
Yes	9	3.4	2.9	5.3			
Missing	27	10.3	9.8	12.3			
Used birth control	97	37.2	34.3	47.4	0.07		
Condoms	74	28.4	28.9	26.3	0.70		
Short-acting hormonal	33	12.6	6.9	33.3	<0.01		
Intrauterine device *	1	0.4	0.5	0.0	1.00		

* Indicates that Fisher's Exact test was used.

Table 2

Prevalence of reported reasons by participant characteristics

Characteristic	Institutional		Individual		Compliance	
	n	%	n	%	n	%
Age, years						
18–19	10	28.6	16	45.7	13	37.1
20–24	36	35.6	51	50.5	21	20.8
25–29	22	34.4	30	46.9	20	31.3
30–48	8	21.6	20	54.1	8	21.6
Missing	8	33.3	13	54.2	10	41.7
Race						
White	36	33.0	48	44.0	25	22.9
Black	31	27.4	64	56.6	33	29.2
Other/Unknown	17	43.6	18	46.2	14	35.9
Education						
Less than high school	10	33.3	14	46.7	8	26.7
Graduated high school	21	28.0	41	54.7	22	29.3
Some college or more	53	35.1	73	48.3	40	26.5
Missing	0	0.0	2	40.0	2	40.0
Gravidity						
1	13	22.8	28	49.1	16	28.1
2–3	33	31.4	49	46.7	27	25.7
4–10	29	40.3	40	55.6	18	25.0
Missing	9	33.3	13	48.2	11	40.7
Parity						
0	21	22.8	40	43.5	24	26.1
1	24	34.8	37	53.6	14	20.3
2–6	30	41.1	40	54.8	23	31.5
Missing	9	33.3	13	48.2	11	40.7
Previous spontaneous abortion						
No	63	30.1	103	49.3	56	26.8

Characteristic	Institutional		Individual		Compliance	
	n	%	n	%	n	%
Yes	12	48.0	14	56.0	5	20.0
Missing	9	33.3	13	48.2	11	40.7
Repeat abortion						
No	38	29.2	60	46.2	33	25.4
Yes	37	35.6	57	54.8	28	26.9
Missing	9	33.3	13	48.2	11	40.7
Previous surgical abortion						
No	40	30.1	63	47.4	33	24.8
Yes	35	34.7	54	53.5	28	27.7
Missing	9	33.3	13	48.2	11	40.7
Previous medical abortion*						
No	72	32.0	112	49.8	61	27.1
Yes	3	33.3	5	55.6	0	0.0
Missing	9	33.3	13	48.2	11	40.7
Used birth control	27	27.8	43	44.3	22	22.7
Condoms	22	29.7	36	48.7	16	21.6
Short-acting hormonal	6	18.2	8	24.0	6	18.2
Intrauterine device*	1	100.0	1	100.0	1	100.0

* Indicates that Fisher's Exact test was used.