Comparison of contraceptive use between the Contraceptive CHOICE Project and state and national data

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Abstract

Background—We compared contraceptive prevalence reported in the Contraceptive CHOICE Project (CHOICE) at time of enrollment, with estimates from representative surveys, the 2006–2008 National Survey of Family Growth (NSFG) and 2006 Missouri Behavioral Risk Factor Surveillance System (BRFSS).

Study design—We calculated survey weights for CHOICE participants and compared selected demographic characteristics and prevalence estimates of current contraceptive methods being used at the time of enrollment.

Results—Compared to the NSFG, CHOICE participants at time of enrollment were less likely to be pill users (16.1% vs. 24.0%) and more likely to use condoms (23.8% vs. 13.8%). Compared to the BRFSS, CHOICE participants were more likely to use condoms (20.4% vs. 12.9%) and withdrawal (6.6% vs. 0.4%).

Conclusion—Despite differences in sampling strategies between CHOICE and state and national surveys, the contraceptive prevalence estimates were largely similar. This information combined with the high rates of long-acting reversible contraception (LARC) use after enrollment by CHOICE particiants that have been previously reported by study participants, may imply that cost and restricted access to LARC could be essential factors in the low rates of LARC use in the US.

Keywords

Contraception; Epidemiology; Intrauterine device; Population data

1. Introduction

Approximately half of the pregnancies in the United States (U.S.) each year are unplanned [1]; greater than 50% of these unintended pregnancies end in abortion [2]. It has been

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estimated that unplanned pregnancies have direct health care costs of billions of dollars annually [3–4]. Moreover, whether the pregnancy was intended is an important predictor of pregnancy-related behaviors such as seeking prenatal care and smoking cessation [5]. Not all unintended pregnancies occur among women who are not contracepting; up to 50% of women undergoing abortion report using a contraceptive method in the month they became pregnant [6–7]. Because many of the most prevalent contraceptive methods used by U.S. women have daily regimens (e.g., oral contraceptive pills) or must be used at each act of intercourse (e.g., condoms), unintended pregnancies are often a result of inconsistent and incorrect use rather than method failure [8].

Greater use of more effective methods could have an impact on the unintended pregnancy rate. However, currently, less than 6% of U.S. women using contraceptives use an intrauterine contraceptive (IUC) compared to 10% of female contraceptive users in Germany, 17% in France and 27% in Norway [9–10]. The first-year failure rates with typical use for the levonorgestrel intrauterine system and the copper T 380A intrauterine device are less than 1%. Similarly, the subdermal implant typical first-year failure rate is 0.05% [11]. Failure rates of less than 1% are contrasted with the typical first-year failure rate for the more commonly used contraceptive methods such as oral contraceptive pills (8%) and male condoms (15%) [11].

Recent studies suggest that the initial up-front cost of long-acting reversible contraceptive methods (LARC; intrauterine contraception and subdermal implant) can be prohibitive to many women, an unfortunate deterrent to their use despite high rates of satisfaction and efficacy given they are "forgettable" and offer greater cost-effectiveness over the long term compared to other contraceptive methods [12–14].

The Contraceptive CHOICE Project (CHOICE) seeks to remove the financial barriers to effective contraception, increase knowledge of the safety and efficacy through a brief contraceptive counseling session and promote the use of LARC, and reduce unintended pregnancy at the population level in St. Louis, Missouri. Among the first 2,500 women who enrolled in CHOICE and were willing to start a new contraceptive method, 67% chose a LARC method (56% IUC, 11% subdermal implant) at the time of enrollment [15].

These results demonstrate the potential for greater LARC use in the U.S. when financial barriers are removed, when women are made aware of these methods and their risks and benefits, and when these methods are offered as first-line contraceptive options. This analysis seeks to establish the external validity of the CHOICE cohort and measure its generalizability to other survey populations of reproductive-aged women in terms of prevalence of current contraceptive use and demographic characteristics, and thus assess the possibility of similar increases in LARC use in the broader population.

2. Methods

In 2008, Santelli et al. [16] published an analysis comparing the 2002 National Survey of Family Growth (NSFG) and the 2002 Behavioral Risk Factor Surveillance System (BRFSS) in terms of sampling and recruitment outcomes, demographic characteristics of the study samples, and current contraceptive methods used at time of the survey. We used this framework to compare the CHOICE cohort to participants in state and national surveys. Specifically, we compared the first 2,500 participants enrolled in CHOICE to the most recent and available data from NSFG (Cycle 7, 2006–2008) and the Missouri BRFSS (2006).

CHOICE is a convenience sample of women in the St. Louis region. Participants are recruited at specific family planning clinic locations and via general awareness about

CHOICE through their medical providers, newspaper reports, study flyers, and word of mouth. Recruitment sites include university-affiliated clinics and providers, two facilities providing induced abortion, and community clinics that provide family planning, obstetric, gynecologic, and/or primary care. The CHOICE protocol, which provides a contraceptive method and required clinical services at no cost to participants, was approved by the Washington University in St. Louis School of Medicine Human Research Protection Office prior to initiation of participant recruitment. Women are eligible to participate if they are 14–45 years of age, reside in or seek clinical services in designated recruitment sites in the St. Louis region, have been sexually active with a male partner in the past six months or anticipate sexual activity in the next six months, have not had a tubal ligation or hysterectomy, do not desire pregnancy in the next year, and are interested in starting a new reversible contraceptive method [15]. Enrollment began in August of 2007 and is ongoing. The CHOICE dataset for this analysis consisted of the first 2,500 women who had enrolled by the end of 2008.

The NSFG is arguably the best source of nationally representative information on contraceptive use, sexual activity, and marriage in the U.S. Participants are selected on the basis of an area probability sample to represent the household population of the United States, 15–44 years of age and is designed to produce national data, not estimates for individual states. Cycle 7 of the NSFG (2006–2008) has a sample size of 7,356 women and contains data from the first two years since the transition of NSFG to a continuous interviewing methodology[17]. Of these, 6,567 women were between 18–44 years of age. We focused our analysis on women who are at risk of pregnancy; therefore, we omitted women who were pregnant at the time of the survey, who had been sterilized or who reported tubal ligation or sterility as a current contraceptive method. The final NSFG dataset for this analysis consisted of 5,146 women and represents a weighted population of 42.7 million women.

The BRFSS is a state-based cross-sectional telephone survey that generates information about health risk behaviors, clinical preventive practices, and health care access and use primarily related to chronic diseases and injury for adults 18 years and older[18]. For the 2006 BRFSS, we restricted our study sample to female Missouri participants aged 18–44 years (n=1,055) and further deleted observations for women who were pregnant at the time of the survey, who reported hysterectomies or who reported tubal ligation or hysterectomy as the current contraceptive method, resulting in a final sample size of 745 women, representing a weighted population of 819,000 women.

2.1. Selection of demographic variables for comparison

In each of the datasets, the continuous variable for age was recoded into a categorical variable. In the CHOICE dataset, variables for race and Hispanic origin were combined into a single variable for race/ethnicity. Participants who reported multiple races or whose race/ethnicity was missing were categorized as "other." CHOICE differed from the NSFG and Missouri BRFSS in the categorization of income levels. In order to compare the income of CHOICE participants with the other two studies, we created a dichotomous variable for income: for CHOICE participants, the low-income category represents women with a monthly income ≤$1600, and for NSFG and the Missouri BRFSS, it represents women with a monthly income ≤$1667. This cut-point approximates the 2007 federal poverty guidelines for an average family size of 4 persons [19].

2.2. Estimates of current contraceptive use

Information on current contraceptive use was extracted from different survey questions in each study and used to create comparable classifications of contraceptive method use. In

each case, if a woman reported current simultaneous use of multiple contraceptive methods, the most effective method was chosen as the current method [11]. Typical first-year efficacy rates ranked from highest to lowest are: vasectomy, implant, IUC, injectables, combined hormonal methods (e.g., oral contraceptives, vaginal ring, and transdermal patch), male condoms, diaphragm, rhythm, withdrawal and other methods. We combined the "rhythm or safe period by calendar" and "safe period by temperature or cervical mucus test, natural family planning" into one category ("Rhythm"); classified the cervical cap in the diaphragm category; and defined injectables as estradiol/medroxyprogesterone and depot medroxyprogesterone acetate. Other contraceptive methods included: foam, jelly or cream, female condom, vaginal pouch, suppository, insert, contraceptive sponge, and "morning after" pills or emergency contraception.

At the time of enrollment, CHOICE participants are asked if they have ever used a particular contraceptive method and if yes, whether they are currently using the method. The analyses in this paper refer to the contraceptive methods used just prior to enrollment, not the methods participants have selected to use upon enrollment. For the NSFG, participants reported up to four methods used in the month of their interview. For the Missouri BRFSS, the question, "What method are you using?" was the source for current contraceptive use.

2.3. Data Analysis

The Contraceptive CHOICE Project used a non-probability sampling scheme to recruit participants from the St. Louis region which resulted in an age and race/ethnicity distribution that is different from state and national demographics; therefore, we standardized the CHOICE sample to the NSFG and Missouri BRFSS samples to correct for these biases mathematically. For each survey sample, we created age and race/ethnicity strata and noted the proportion of survey participants within each combined age-race/ethnicity cell. To standardize CHOICE participants to NSFG data, we calculated the survey weight for each age-race/ethnicity group by dividing the NSFG proportion by the corresponding CHOICE proportion. For example, 4.43% of NSFG participants and 17.51% of CHOICE participants were in the 20–24 years and black, non-Hispanic category, hence the CHOICE weight for this category was 4.43/17.51=0.253. The CHOICE survey weights for the Missouri BRFSS were calculated in the same way.

We used PROC SURVEYFREQ in SAS to calculate prevalence (in numbers and proportions) and standard errors for CHOICE, NSFG and the Missouri BRFSS while accounting for the final sampling weights for NSFG (variable *finalwgt30*) and the Missouri BRFSS (variable *_finalwt*) and the calculated post-stratification weights for CHOICE. T-tests were used to test for statistical significance of absolute differences between estimates of CHOICE versus NSFG and CHOICE versus Missouri BRFSS.

Due to relatively large sample sizes in each of the studies, the likelihood of obtaining a statistically significant but not clinically meaningful result was high. To assist in assessing the substantive magnitude of the difference in the prevalence rates between CHOICE and the other two surveys, we calculated the effect size, which is a scale-free index and independent of the size of the sample [20]. The effect size statistic Cohen's *h* measures the difference between two proportions P_1 (CHOICE) and P_2 (NSFG or Missouri BRFSS) using the formula $|2(\arcsin \sqrt{P_1}) - 2(\arcsin \sqrt{P_2})|$ [20]. A Cohen's *h* value of 0.2 is considered a small effect size, 0.5 medium, and 0.8 large [21].

3. Results

We examined the demographic characteristics and the current birth control method used by CHOICE participants at the time of study enrollment, before they chose a new contraceptive method, and compared them with survey populations that resulted from different sampling strategies conducted during similar time periods. A comparison of the sampling, data collection and inclusion criteria of CHOICE, the 2006–2008 NSFG and the 2006 Missouri BRFSS is shown in Table 1. In contrast to the two national and state-level surveys, CHOICE utilized a convenience sample of women in the St. Louis region. For the analysis, we included women from each survey aged 18–44 years who were not pregnant and who had not undergone sterilization, resulting in a sample size of 2,398 women in CHOICE, 5,146 women in the NSFG and 745 women in the Missouri BRFSS. Survey weights were calculated for the CHOICE cohort separately for comparison to the NSFG and the Missouri BRFSS samples in order to obtain estimates that were standardized for age and race/ ethnicity.

Selected demographic characteristics for participants surveyed in CHOICE, 2006–2008 NSFG and 2006 Missouri BRFSS are shown in Table 2. Unadjusted rates are reported for age and race/ethnicity categories. Rates for marital status, education and income are standardized separately to NSFG and BRFSS for age and race/ethnicity. CHOICE participants were more likely to be black, non-Hispanic compared to NSFG (43.5% vs. 12.9%) and Missouri BRFSS (43.5% vs. 9.4%) participants and also more likely to have some college education (CHOICE vs. NSFG: 39.5% vs. 32.9%; CHOICE vs. BRFSS: 37.7% vs. 26.0%). CHOICE participants were less likely to be married (NSFG: 20.8% vs. 44.4%; BRFSS: 27.4% vs. 53.6%) and more likely to have low income compared to NSFG (69.2% vs. 19.6%) and Missouri BRFSS (61.1% vs. 12.4%) participants. The absolute difference in the distribution of women within each demographic characteristic was statistically significant for both comparisons, CHOICE versus NSFG and CHOICE versus BRFSS.

In terms of effect size, the magnitude of the difference in ages between participants in CHOICE and the other two surveys was medium for the 20–24 years category (Cohen's h=0.47 for NSFG and 0.48 for BRFSS) and the 40–44 years category (Cohen's h=0.51 for NSFG and 0.53 for BRFSS) and small for all other age categories. When comparing differences in the proportion of race/ethnicity across surveys, the effect size for differences in proportion of white, non-Hispanic participants was medium for NSFG (Cohen's h=0.37) and large for BRFSS (Cohen's h=0.78). Similarly, the difference in the proportion of black participants was medium for NSFG (Cohen's h=0.71) and large for BRFSS (Cohen's h=0.82).

Among the remaining demographic characteristics that were standardized by age and race/ ethnicity, the magnitude of the differences observed between CHOICE and the other two surveys was small for all categories except three. Within marital status, the difference across surveys for the proportion of married women was medium (Cohen's h= 0.51 for NSFG and 0.54 for BRFSS). Within income, Cohen's h was large for both categories of income in both survey comparisons (low income: Cohen's h=1.05 for NSFG and 1.07 for BRFSS; high income: Cohen's h=0.96 for NSFG and 0.86 for BRFSS).

We compared age and race/ethnicity standardized proportions of current contraceptive methods used by women participating in the 2007–2008 CHOICE, 2006–2008 NSFG and 2006 Missouri BRFSS (Table 3). Except for the diaphragm and transdermal patch, CHOICE participants had a statistically significant absolute difference in the proportion of women who reported current use across all contraceptive methods compared to NSFG. A similar

distribution was observed when comparing CHOICE to BRFSS, the absolute difference in proportions was statistically significant for all contraceptive methods except for current diaphragm users.

Compared to NSFG participants, CHOICE participants had higher rates of current use for condoms (23.8% vs. 13.8%) and withdrawal (5.8% vs. 4.7%) and were also more likely to be non-users of contraception (44.2% vs. 37.1%). CHOICE participants were much less likely than NSFG participants to be pill users (16.1% vs. 24.0%) and to have partners with vasectomy (0.1% vs. 8.3%). The magnitude of the difference (effect size) between proportions of users for each method was small for all methods (Cohen's h range: 0.03–0.26) except for vasectomy, which had a medium effect size (Cohen's h=0.52).

Compared to Missouri BRFSS participants, CHOICE participants were more likely to use condoms (20.4% vs. 12.9%) and withdrawal (6.6% vs. 0.4%) and were also more likely to be non-users of contraception (44.8% vs. 41.9%). Again, similar to the NSFG comparison, CHOICE participants were less likely to be pill users (16.8% vs. 19.8%) and to have partners with vasectomy (0.3% vs. 13.1%). The effect sizes of the difference between Missouri BRFSS and CHOICE participants were small (Cohen's h range: 0.03–0.26) except for withdrawal, which had a small to medium effect size (Cohen's h=0.39) and vasectomy, which had a medium to large effect size (Cohen's h=0.63).

4. Discussion

In an effort to determine how likely the results from the Contraceptive CHOICE Project will translate to the broader population of reproductive-aged women, we compared the CHOICE cohort at the time of enrollment with survey populations of state and national populations from the same time period. We found a statistically significant difference in the estimates for demographic characteristics and current contraceptive use between CHOICE participants and each of two nationally representative surveys, the 2006–2008 NSFG and the 2006 Missouri BRFSS.

However, it is important to consider each study's sample size, and its influence on the statistical test's ability to detect even the smallest of differences that may not be important from a clinical or public health perspective or when making meaningful comparisons across groups. When we applied an objective test of the magnitude of the difference between the proportions observed within CHOICE, NSFG and BRFSS, we found that for almost every demographic characteristic comparison the effect size was deemed to be small. As for current contraceptive method, the magnitude of the difference between CHOICE participants and women from the two surveys was again found to be small except for women who reported their current contraceptive method as partners with vasectomies or using withdrawal. Across all three surveys, the most prevalent contraceptive methods currently being used were oral contraceptive pills and condoms. The proportion of women currently not using a contraceptive method was roughly similar and the rates of LARC use (implants and intrauterine devices) was extremely low within all three survey populations. It is worth noting that rates of IUD use in the US are either lower or much lower than in European countries [10].

We attribute the significant differences observed to two possible factors: (a) demographic characteristics of the St. Louis region, and (b) CHOICE inclusion and exclusion criteria. CHOICE participation is restricted to residents of the St. Louis City and County area where close to half of residents in the City are black [22]. CHOICE may selectively attract younger, single, lower-income women who do not have an established usual method of contraception than what results from the probability-based sampling strategies used within

NSFG and BFRSS. Therefore, we are less likely to enroll women whose partners have vasectomies as they already have an established method of contraception. In addition, women are eligible for CHOICE if they are willing to switch to a new contraceptive method. This criterion may explain the lower proportion of current pills users within the CHOICE sample than observed by the national and state samples. Women who want to continue pill use are not eligible for CHOICE. These differences mean we are less likely to enroll women who are using contraception or who are using more effective methods. However, if an intervention similar to CHOICE were implemented on a larger scale, the population of potential users would also be skewed toward those women who were less likely to use any or effective methods.

We acknowledge that clear differences in the sampling methodology and inclusion criteria across all three surveys may influence prevalence estimates and did not reasonably expect precise agreement between CHOICE participants and national surveys. We are reassured that the majority of absolute differences in the estimates between CHOICE and the two surveys were considered to be small despite their statistical significance compared to low rates of LARC use prior to enrollment.

In conclusion, we found few meaningful differences between the women participating in CHOICE, NSFG, and BFRSS in terms of current contraceptive method use (for CHOICE participants at the time of study enrollment, before they chose a new contraceptive method). Most notably, the proportion using LARC methods was low in all three surveys. We propose that findings generated from the Contraceptive CHOICE Project cohort will have sufficient external validity necessary to translate to populations outside of the St. Louis area. The high rate of acceptability of subdermal implants and IUCs by the CHOICE cohort after enrollment [15] implies that cost and restricted a ccess to LARC could be essential factors in the low rates of LARC use in the United States.

Acknowledgments

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Table 1

Description of sampling and data collection for the Contraceptive CHOICE Project (2007), National Survey of Family Growth (2006–2008) and Behavioral Risk Factor Surveillance System, Missouri (2006)

	Contraceptive CHOICE Project (2007–2008)	National Survey of Family Growth (2006–2008) [17]	Missouri Behavioral Risk Factor Surveillance System (2006)
Description	Prospective cohort study to remove financial and knowledge barriers to contraception and to promote the use of long-acting contraceptive methods	Nationally representative survey of men and women of reproductive age to collect data on fertility, family planning and related issues	State-based system of health surveys that collects information on health risk behaviors, preventive health practices, and health care access
Geographic scope	Region in and around St. Louis, Missouri	United States	50 states; only Missouri sample was used in this analysis
Sample	Convenience sample of women who were interested in avoiding pregnancy for at least one year and are initiating a new form of reversible contraception	Continuous interviewing of 33 primary sampling units annually from a national area probability sample of 110 primary sampling units nationwide	A disproportionate stratified sampling methodology to select respondents from seven state health regions including the city of St Louis
Age range	14–45 years; limited to 18–44 for this analysis	15–44 years; limited to 18–44	18 years and older; limited to 18–44
Informed consent	Written informed consent	Written informed consent	Oral consent
Compensation	$15 gift card; contraception is provided at no cost to participants	$40	None
Data collection	Face-to-face interviews conducted by trained interviewers	Face-to-face interviews conducted by trained interviewers	Telephone interviews conducted by trained interviewers
Weighting	Post-stratification weights were calculated for each participant to adjust the age and race/ethnicity groups separately to the NSFG data and the BRFSS-MO data	Fully adjusted sampling weights consisting of 3 factors: the inverse of the probability that the case was selected, an adjustment for nonresponse, and an adjustment to control totals of the number of persons by age, sex, race and Hispanic origin	Sampling weights adjust for differences in probability of selection and nonresponse, as well as non-telephone coverage
Sample size *(N)* of survey	2,500 women	7,356 women	1,055 women
Sample size *(N)* for this analysis	2,398 women (excluding women younger than 18 and older than 44 years)	5,146 women (excluding women younger than 18 years, those who were pregnant at the time of the survey and those who had undergone sterilization)	745 women (excluding women older than 44 years, those who were pregnant at the time of the survey and those who had undergone sterilization)

Table 2

Comparison of selected demographic characteristics of analysis sample for the Contraceptive CHOICE Project (CHOICE, 2007–2008) with the National Survey of Family Growth (NSFG, 2006–2008) and Missouri Behavioral Risk Factor Surveillance System (BRFSS-MO, 2006).

		CHOICE and NSFG							CHOICE and BRFSS-MO						
		CHOICE[a]		NSFG		Absolute difference		Effect size	CHOICE[b]		BRFSS		Absolute difference		Effect size
		%	SE	%	SE	%	p value	Cohen's h[c]	%	SE	%	SE	%	p value	Cohen's h[c]
Unadjusted proportions															
Age (years)	18–19	10.5		10.3	0.6	0.2		0.01	10.5		10.7	2.5	−0.2		0.01
	20–24	43.4		21.6	0.9	21.8		0.47	43.4		21.2	2.7	22.2		0.48
	25–29	26.3		20.0	0.9	6.3		0.15	26.3		15.0	1.7	11.3		0.28
	30–34	11.3		16.4	0.8	−5.1		0.15	11.3		19.3	2.1	−8.0		0.22
	35–39	6.5		17.0	1.0	−10.5		0.33	6.5		18.2	2.0	−11.7		0.37
	40–44	1.9		14.7	0.9	−12.8		0.51	1.9		15.5	1.8	−13.6		0.53
Race/ethnicity	Hispanic	4.5		15.0	0.7	−10.5		0.37	4.5		3.7	1.3	0.8		0.04
	White, non-Hispanic	47.2		65.3	1.0	−18.1		0.37	47.2		83.0	2.1	−35.8		0.78
	Black, non-Hispanic	43.5		12.9	0.6	30.6		0.71	43.5		9.4	1.4	34.1		0.82
	Other, non-Hispanic	4.7		6.7	0.6	−2.0		0.09	4.7		3.8	1.1	0.9		0.04
Adjusted proportions															
Marital status	Married	20.8	1.9	44.4	1.2	−23.6	<0.01	0.51	27.4	2.8	53.6	3.0	−26.2	<0.01	0.54
	Cohabiting	14.8	1.1	11.8	0.7	3.0	<0.01	0.09	13.7	1.6	3.7	1.0	10.0	<0.01	0.37
	Formerly married	13.9	1.6	7.4	0.5	6.5	<0.01	0.21	22.4	3.1	9.2	1.3	13.2	<0.01	0.37
	Never married	50.4	2.0	36.3	1.1	14.1	<0.01	0.29	36.2	2.3	33.2	3.1	3.0	<0.01	0.06
	Missing	0.1	0.1	N/A	N/A	N/A	N/A	0.04	0.1	0.1	0.3	0.2	−0.2	0.07	0.05
Education	<12th grade	11.3	1.7	12.6	0.7	−1.3	<0.01	0.09	6.9	0.9	9.0	1.8	−2.1	<0.01	0.08
	12th grade	20.4	1.5	24.3	1.0	−3.9	<0.01	0.51	19.7	2.3	27.0	2.4	−7.3	<0.01	0.17
	Some college	39.8	1.9	32.5	1.1	7.3	<0.01	0.21	37.7	2.8	26.0	2.7	11.7	<0.01	0.25
	College graduate+	28.5	1.7	30.6	1.1	−2.1	<0.01	0.29	35.7	2.8	37.7	2.8	−2.0	<0.01	0.04
	Missing	0.03	0.0	N/A	N/A	N/A	N/A	0.04	0.04	0.0	0.2	0.1	−0.1	N/A	0.05

		CHOICE[a]		NSFG		Absolute difference		Effect size	CHOICE[b]		BRFSS		Absolute difference		Effect size
		%	SE	%	SE	%	p value	Cohen's h^c	%	SE	%	SE	%	p value	Cohen's h^c
		CHOICE and NSFG							**CHOICE and BRFSS-MO**						
Income	Low	69.2	1.8	19.6	0.9	49.6	<0.01	1.05	61.1	2.9	12.4	1.5	48.7	<0.01	1.07
	High	25.6	1.7	71.6	1.0	−46.0	<0.01	0.96	35.2	3.0	76.4	2.4	−41.2	<0.01	0.86
	Missing	5.1	0.7	8.7	0.7	−3.6	<0.01	0.14	3.7	0.5	11.2	2.1	−7.5	<0.01	0.30

Note: Unadjusted proportions have been reported for age and race/ethnicity categories. Proportions for marital status, education and income have been adjusted to NSFG and BRFSS for age and race/ethnicity.

[a] Estimates for marital status, education and income are adjusted to NSFG for age and race/ethnicity.

[b] Estimates for marital status, education and income are adjusted to Missouri BRFSS for age and race/ethnicity.

[c] Cohen's h: value of 0.20 is considered small, 0.50 medium and 0.80 large effect size.

Table 3

Comparison of contraceptive use at the time of enrollment among analysis sample for the Contraceptive CHOICE Project (CHOICE, 2007–2008) with the National Survey of Family Growth (NSFG, 2006–2008) and Behavioral Risk Factor Surveillance System for Missouri (BRFSS-MO, 2006).

	CHOICE[a]		NSFG		Absolute difference		Effect size	CHOICE[b]		BRFSS-MO		Absolute difference		Effect size
	%	SE	%	SE	%	p value	Cohen's h[c]	%	SE	%	SE	%	p value	Cohen's h[c]
Vasectomy	0.1	0.1	8.3	0.7	−8.2	<0.01	0.52	0.3	0.3	13.1	1.6	−12.8	<0.01	0.63
Implant	0.02	0.02	0.08	0.05	−0.06	N/A	0.03	0.02	0.02	0.9	0.8	−0.9	N/A	0.17
IUD	0.9	0.4	4.9	0.6	−4.0	<0.01	0.26	0.3	0.1	1.7	0.9	−1.4	<0.01	0.14
Injectables	2.6	0.5	2.9	0.3	−0.3	<0.01	0.02	3.6	0.8	2.5	0.9	1.1	<0.01	0.06
Pill	16.1	1.2	24.0	1.0	−7.9	<0.01	0.20	16.8	1.8	19.8	2.4	−3.0	<0.01	0.08
Patch	0.7	0.2	0.6	0.1	0.1	0.32*	0.01	0.4	0.1	1.2	0.8	−0.8	<0.01	0.09
Ring	4.7	0.6	2.1	0.3	2.6	<0.01	0.15	5.0	0.7	0.9	0.5	4.1	<0.01	0.26
Condom	23.8	1.8	13.8	0.7	10.0	<0.01	0.26	20.4	2.1	12.9	2.0	7.5	<0.01	0.20
Diaphragm	0.1	0.1	0.06	0.04	0.04	0.29	0.01	0.1	0.1	0.5	0.4	−0.4	0.09	0.09
Rhythm	1.0	0.6	0.9	0.2	0.1	0.07	0.01	1.6	1.2	2.0	0.7	−0.4	<0.01	0.03
Withdrawal	5.8	0.7	4.7	0.5	1.1	<0.01	0.05	6.6	1.4	0.4	0.3	6.2	<0.01	0.39
Other	0.04	0.03	0.3	0.1	−0.26	N/A	0.07	0.04	0.03	2.0	0.9	−2.0	N/A	0.25
Non-users	44.2	2.0	37.1	1.1	7.1	<0.01	0.14	44.8	2.9	41.9	2.9	2.9	<0.01	0.06

[a]Estimates are adjusted to NSFG for age and race/ethnicity.

[b]Estimates are adjusted to Missouri BRFSS for age and race/ethnicity.

[c]Cohen's h: value of 0.20 is considered small, 0.50 medium and 0.80 large effect size.