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Chronic Diseases and Use of Contraception Among Women at Risk of Unintended Pregnancy

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Abstract

Background—Women with chronic diseases are at increased risk of having unintended pregnancies. Little is known whether chronic diseases are associated with increased likelihood of effective/highly effective contraceptive use.

Methods—We analyzed 2008–2010 Florida Behavioral Risk Factor Surveillance System data for women aged 18–44 years who were at risk of unintended pregnancy. Multivariable Poisson regression estimated adjusted prevalence ratios (aPRs) and 95% confidence intervals (CIs) for contraceptive use in relation to diabetes, cardiovascular disease (CVD), and current asthma. We assessed the association of chronic disease status with use of three different contraception outcomes: (1) any method versus none, (2) less effective methods (methods associated with ≥10 unintended pregnancies/100 women/year) versus none, and (3) effective/highly effective methods (<10 unintended pregnancies/100 women/year) versus none.

Results—Among 4473 women at risk for unintended pregnancy, 87% were using any method of contraception (22.5% less effective methods and 64.5% effective/highly effective methods). Women with CVD were more likely than those without CVD to use any contraception (aPR = 1.09, 95% CI: 1.04, 1.15), less effective (aPR = 1.39, 95% CI: 1.13, 1.70), and effective/highly effective (aPR = 1.10, 95% CI: 1.03, 1.19) contraception. Women with diabetes were more likely to use less effective methods than women without diabetes (aPR = 1.34, 95% CI: 1.05, 1.72). No significant associations were observed for asthma, regardless of contraceptive effectiveness.

Conclusions—Self-reported use of effective/highly effective contraception was higher than nonuse or use of less effective methods among all women at risk of unintended pregnancy, but could be improved, especially among women with chronic diseases.

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Author Disclosure Statement

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Introduction

Diabetes, hypertension, and asthma have been increasing among reproductive-age women[1] and are risk factors for adverse perinatal outcomes, including spontaneous abortions, congenital malformations, preterm birth, infants who are large for gestational age, fetal growth restriction, low birth weight, cesarean section, superimposed preeclampsia, renal deterioration, and in severe acute cases, maternal and fetal death.[2–14] In addition, women with chronic diseases are more likely to report that their pregnancies are unintended compared to women without chronic diseases.[15] Unintended pregnancies carry their own increased risks for preterm delivery and premature rupture of membranes compared to intended pregnancies.[16]

Federal and state committees have recommended that health care professionals provide preconception counseling and appropriate family planning or contraception services to women, especially women with chronic diseases, to optimally time pregnancy and minimize morbidity and mortality.[17,18] Few studies have examined the relation between prepregnancy chronic disease status and contraceptive use.[15,19–22] Of these, two have shown some associations between chronic disease and contraceptive use with results varying depending on the chronic disease examined.[20,22] No published studies have examined associations between chronic disease and contraceptive use by effectiveness of contraception.

We examined survey data from the general population of women (age 18–44 years) at risk of having an unintended pregnancy in Florida. Our objective was to assess whether three common chronic diseases (diabetes, cardiovascular disease [CVD], or asthma) were associated with use of contraception, according to various levels of effectiveness. We also assessed potential effect modification by age group and conducted exploratory descriptive analyses to examine the prevalence of specific contraceptive methods by chronic disease status and age group.

Materials and Methods

Data source

Data from the 2008 to 2010 Florida Behavioral Risk Factor Surveillance System (BRFSS) were used for this study. BRFSS is a large ongoing random-digit-dialed telephone survey with a cross-sectional sample, administered annually to U.S. civilians at least 18 years of age living in households. Survey response rates in Florida ranged from 45.5% to 50.4% in 2008–2010. In 2011, BRFSS implemented new sampling and weighting methodologies by including cellular telephone respondents as opposed to landline respondents only and applying a more sophisticated “raking” (*i.e.,* an iterative proportional fitting) method as opposed to the standard “post-stratification” method to weight the data. Furthermore, the Florida survey included detailed questions on contraceptive use in 2011 and not in subsequent years, impeding our ability to conduct robust analyses. Consequently, survey data from 2011 onward were not included in this study. Details on BRFSS methodology are available elsewhere.[23] Our study was granted exempt status by the Institutional Review Board at the Florida Department of Health.

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Measures

For the outcome, contraceptive use, participants were asked “Are you or your husband/partner doing anything now to keep you from getting pregnant?” Those who responded “Yes” were then asked, “What are you or your husband/partner doing now to keep you from getting pregnant?” We categorized contraceptives as *no method* (referent), *less effective*, or *effective/highly effective* to examine whether women with chronic diseases were more likely to use effective/highly effective methods.[24] *Less effective methods* were defined as those associated with 10 or more unintended pregnancies per 100 women per year during typical use (diaphragms, male and female condoms, withdrawal, sponge, cervical cap, spermicide, and fertility-awareness methods). *Effective/highly effective methods* were defined as those associated with less than 10 unintended pregnancies per 100 women per year during typical use (male and female sterilization, intrauterine devices [IUDs], implants, injections, oral contraceptive pills, vaginal rings, and the patch). The category *no method* was assigned if the participant or her husband/partner were not doing anything now to keep from getting pregnant. We also examined use of any contraception (yes, no).

We assessed three common and self-reported chronic diseases (diabetes, CVD, and asthma) among women of reproductive age that could be readily examined using BRFSS data. Hypertension, a major risk factor for CVD, was not assessed on the 2008 FL BRFSS survey and the data remaining in the other two survey years were too sparse to produce reliable estimates. Consequently, hypertension was not included in this study. For each condition, participants were asked whether they were told by a doctor, nurse or other health professional that they *ever* had the condition. Response options for diabetes, CVD, and asthma were “Yes,” “No,” “Not sure,” or “Refused.” Diabetes had two additional options: “Yes, but told only during pregnancy” and “No, pre-diabetes or borderline diabetes.” We categorized these women ($n = 176$) as not having diabetes, leaving 142 women with self-reported diabetes. Women with CVD consisted of those who reported they ever had a heart attack, angina or coronary heart disease, or stroke ($n = 100$). Women were classified as having current asthma if they reported having asthma at the time of interview ($n = 440$). These three chronic conditions were also used to create a variable “any chronic disease” where existence of at least one of the three chronic conditions was identified. The potential confounders considered were identified *a priori* from those in the literature that are related to contraceptive use and to chronic disease, namely age (18–24, 25–34, 35–44 years), education (<high school degree, high school diploma, >high school diploma), race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, non-Hispanic other), marital status (married, widowed/divorced/separated, never married/a member of an unmarried couple), body mass index (underweight/normal weight [<25.0 kg/m^2], overweight [25.0–29.9 kg/m^2], obese [≥30.0 kg/m^2]), has health coverage (yes, no), and has a personal doctor (yes, no).

Exclusion criteria

Our sample population included 7368 women in Florida aged 18–44 years who responded to the 2008–2010 BRFSS surveys. We excluded 1835 women who were not at risk of having an unintended pregnancy, defined as pregnant women or women who were trying to get pregnant, were not sexually active, indicated not having a male partner, and reported having had a hysterectomy. Of the remaining 5533, women were also excluded if their contraceptive

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use could not be determined (n = 656) and if data on diabetes, CVD, or asthma (n = 51) or potential confounders (n = 353) were missing, leaving 4473 women in the entire analytic sample. Given recommendations to exclude male partner or female sterilizations from assessments identifying women who risk unintended pregnancy as these methods have low contraceptive failure rates,[25] we conducted sensitivity analyses where we excluded participants who reported male partner or female sterilization as their method of contraception (n = 1710).

Statistical analysis

All estimates were weighted using STATA v.12.1 to adjust for the survey design, stratified sampling, coverage, and response rates to produce accurate state-level estimates. We used chi-square analyses to test distribution differences of characteristics. Poisson regression with robust error variance was used to estimate unadjusted and adjusted prevalence ratios (aPRs) with 95% confidence intervals (CIs) for contraceptive use in relation to any and specific chronic diseases. In regression models for contraceptive effectiveness, women who were using less effective methods and women who were using effective/highly effective methods were analyzed separately and were individually compared to those who were using no method. Analyses were repeated for the sensitivity analysis. Poisson regression was more suitable for analyzing our highly prevalent outcomes than ordinary or multinomial (*i.e.*, where less effective methods and effective/highly effective methods were compared, separately, to no method) logistic regression, which overestimated the observed prevalence ratios. Wald tests were used to examine potential effect modification by age. Lastly, to provide additional details of method use across any chronic disease status and age groups, individual methods were grouped into the following five categories: male and female sterilization, long-acting reversible contraceptive methods (LARCs; IUDs or implants), barrier methods (condoms, diaphragms, cervical caps, or sponges), short-acting reversible contraceptive methods (pills, injections, rings, or patches), and other (withdrawal, foams, jellies, creams, “unspecified other methods,” or emergency contraception). For this exploratory analysis, we were only able to present descriptive statistics because of the small sample sizes.

Results

Of 4473 women considered at risk for unintended pregnancy, 87% reported using contraception, with 64.5% using an effective/highly effective method and 22.5% using a less effective method (Table 1). The prevalence of effective/highly effective contraceptive use was lowest among women 18–24 years of age and those who were non-Hispanic other, unmarried, had no health insurance plan, and had no personal doctor. The overall weighted prevalence was 11.2% for any chronic disease, 2.7% for diabetes, 2.1% for CVD, and 7.7% for current asthma in our sample.

Relative to women without CVD, women with CVD were more likely to use any contraception (aPR = 1.09, 95% CI: 1.04, 1.15), less effective (aPR = 1.39, 95% CI: 1.13, 1.70), and effective/highly effective (aPR = 1.10, 95% CI: 1.03, 1.19) methods of contraception (Table 2). Women with diabetes were more likely to use less effective methods

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than women without diabetes (aPR = 1.34, 95% CI: 1.05, 1.72). Overall, the crude prevalence ratios and confidence intervals were comparable to the adjusted results. We observed no effect modification by age (data not shown, $p = 0.07$).

For the sensitivity analysis, the effect estimates before and after the exclusion of sterilizations were comparable with one exception: after adjustment, the association between effective/highly effective methods and CVD was no longer statistically significant (aPR= 1.20, 95% CI: 0.95, 1.51).

After grouping individual methods into specific categories, male and female sterilizations were the most prevalent category of methods used among women 18 to 44 years of age (32.3%) while long-acting reversible contraceptive methods were the least prevalent (6.7%) (Table 3). Women <35 years of age with or without chronic disease tended to use short-acting contraceptive methods more than older women (≥35 years) ($p < 0.01$). The prevalence of sterilization was significantly higher among women <35 years of age with chronic diseases (27.4% [95% CI: 18.8%, 38.0%]) than among women <35 years of age without chronic diseases (16.2% [95% CI: 13.0%, 19.9%]) ($p = 0.02$) (data not shown). Associations between individual method use and chronic disease (any or specific) could not be inferred with certainty because of small cell sizes.

Discussion

In our study, women with CVD were significantly more likely to use any, less effective, and effective/highly effective contraception than women without CVD; however, the association was strongest for use of less effective methods. Women with diabetes were significantly more likely to use less effective contraception compared to those without. The lack of association for women with any chronic diseases may have been driven by the substantially larger proportion of these women having asthma, which was not associated with contraceptive use. When examining the use of categories of individual contraceptive methods, we found one notable significant difference among women <35 years of age: the prevalence of sterilization was greater among women with chronic disease than among women without chronic disease.

Findings from our adjusted analyses on use of any contraception are consistent with results from some studies[15,19,21] but not others.[20,22] Unlike our study, Perritt et al.[20] found no association between heart disease and any contraception use in a representative Maryland sample of recent mothers. They also reported lower odds of contraception use at conception among women with prepregnancy hypertension compared with non-hypertensive women (odds ratio [OR] = 0.5; 95% CI: 0.3, 0.8) and lower odds for postpartum contraception use among women with prepregnancy diabetes compared to women without (OR = 0.5; 95% CI: 0.1, 0.9). We examined data among all women at risk of unintended pregnancy in the general population and not only among recent mothers. In another study that examined eight chronic medical conditions,[22] women with at least one chronic condition were less likely to receive prescription contraception than women who had no chronic condition (OR = 0.85; 95% CI: 0.76, 0.96). Notably, effect estimates for asthma and diabetes were comparable to ours and CVD was not assessed.

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Strengths of our study include using surveillance data of the general population of women at risk of unintended pregnancy, assessing multiple chronic diseases separately, and differentiating associations with contraceptive methods by level of effectiveness. One limitation is our use of self-reported survey data, which may have introduced potential misclassification of exposure and outcome variables as well as response and selection bias. There could be unmeasured confounding on variables that were not assessed on the survey such as parity. The 2008–2010 surveys had low response rates. Survey participants were a little older and had a higher percentage of non-Hispanic white women than the general Florida population.[26] However, these differences were slight, and therefore potential selection bias should be minimal if the reason for non-inclusion was related to both the exposure and outcome. Our findings, which were based on Florida data, may not be generalizable to national or other state-level data. Furthermore, we were unable to examine reasons for nonuse or use of less effective methods, other chronic conditions such as hypertension, duration of chronic disease experience, types of hormone-based contraception (*e.g.*, progestin-only versus combined oral contraceptive pills), respondents' perceived risk of harm from use of hormone-based contraception, or the simultaneous use of multiple methods of contraception, because of the structure of the available dataset. Lastly, analyses based on small sample sizes may have had limited power to detect some associations.

Although the American College of Obstetricians and Gynecologists and the Centers for Disease Control and Prevention stress the importance of optimal preconception health for women with chronic disorders and provide guidelines to help clinicians select safe and effective methods of contraception for women with medical conditions, some clinicians do not provide contraceptive counseling.[20] Medical providers may be unaware that they can safely prescribe some methods for women with chronic diseases, particularly hormonal contraceptive methods.[20,27] Likewise, women with some chronic conditions may not know hormonal methods are viable options and therefore do not discuss the possibility with their providers. According to the U.S. Medical Eligibility Criteria (MEC),[28] a tool that health care providers can use to determine the best method of contraception, women with CVD and diabetes can use effective/highly effective contraceptive methods safely, and the advantages of contraception for these women generally outweigh any theoretical risks. For example, barring severe, uncontrolled diabetes and other vascular disease that can be associated with diabetes, most women with diabetes can use combined hormonal methods, injections, implants, and IUDs. Effective/highly effective methods that are generally safe for women with CVD include progestin-only pills, implants, and IUDs. Although recommendations for asthma are not included in the 2010 U.S. MEC, women with asthma, particularly those with uncontrolled asthma, are at risk of adverse pregnancy-related outcomes, and therefore, unintended pregnancies should be reduced in this group as well.[3,7,12]

Conclusions

Although the prevalence of effective/highly effective contraception use was higher than that for use of less effective methods and nonuse among all women at risk of unintended pregnancy, our findings show room for improvement and support recommendations for preconception counseling about safe and effective/highly effective contraception tailored to women with chronic diseases who are at risk of unintended pregnancies. In addition, these

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women may need more frequent and active follow-up in clinical settings to assure satisfaction with their contraceptive method. Given that LARCs were the least prevalent method used and that the prevalence of sterilization was significantly higher among younger women with chronic diseases than those without, research to better understand barriers to using reversible effective/highly effective contraception is needed among all women, especially those with chronic diseases.

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Table 1

Descriptive Estimates of Contraceptive Use by Characteristics of Women at Risk of Unintended Pregnancies

Characteristics	No use, n (%)	Less effective, n (%)[a]	Effective/Highly effective, n (%)[b]	p[c]
Overall	516 (13.0)	853 (22.5)	3104 (64.5)	
Age, years				
18–24	58 (19.3)	136 (29.5)	261 (51.2)	
25–34	170 (12.9)	337 (25.0)	1125 (62.2)	
35–44	288 (11.5)	380 (18.9)	1718 (69.7)	<0.01
Education				
<High school diploma	62 (14.4)	83 (33.4)	252 (52.2)	
High school diploma	143 (14.8)	222 (19.4)	830 (65.8)	
>High school diploma	311 (12.3)	548 (22.4)	2022 (65.3)	0.10
Race/ethnicity				
Non-Hispanic white	344 (11.6)	559 (19.8)	2340 (68.6)	
Non-Hispanic black	71 (16.8)	134 (27.6)	304 (55.7)	
Hispanic	74 (12.1)	121 (24.5)	354 (63.5)	
Non-Hispanic other	27 (21.0)	39 (29.5)	106 (49.5)	0.02
Marital status				
Married	307 (11.7)	449 (19.3)	2062 (69.0)	
Widowed, divorced, separated	71 (8.9)	132 (24.8)	459 (66.4)	
Unmarried, unmarried couple	138 (18.2)	272 (29.3)	583 (52.5)	<0.01
Body mass index				
Not overweight or obese	215 (12.1)	399 (21.7)	1425 (66.2)	
Overweight	136 (12.6)	228 (22.6)	853 (64.8)	
Obese	165 (15.8)	226 (24.3)	826 (59.9)	0.49
Has any health insurance plan				
Yes	355 (12.2)	586 (21.4)	2459 (66.4)	
No	161 (16.2)	267 (26.4)	645 (57.4)	0.03
Has a personal doctor				
Yes	353 (11.0)	595 (22.9)	2414 (66.2)	
No	163 (18.4)	258 (21.6)	690 (60.0)	<0.01
Any chronic disease[d]				
Yes	84 (14.4)	111 (23.5)	422 (62.1)	
No	432 (12.9)	742 (22.4)	2682 (64.8)	0.81
Diabetes				
Yes	21 (10.2)	29 (41.5)	92 (48.3)	
No	495 (13.1)	824 (22.0)	3012 (64.9)	0.05
Cardiovascular disease				
Yes	9 (3.4)	16 (33.7)	75 (62.9)	
No	507 (13.2)	837 (22.3)	3029 (64.5)	0.27
Current asthma				
Yes	60 (16.8)	81 (21.5)	299 (61.8)	

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Characteristics	No use, n (%)	Less effective, n (%)[a]	Effective/Highly effective, n (%)[b]	p[c]
No	456 (12.7)	772 (22.6)	2805 (64.7)	0.48

Unweighted frequencies and weighted row percentages are presented. Percentages may not total 100% due to rounding.

[a] Less effective methods were defined as those associated with ≥10 unintended pregnancies per 100 women each year (*i.e.*, condoms, diaphragm, withdrawal, sponges, cervical caps, spermicides, rhythm) with typical use.

[b] Effective/highly effective methods were defined as those associated with <10 unintended pregnancies per 100 women each year (*i.e.*, female and male sterilization, pills, intrauterine devices, implants, shots, vaginal ring, patch) with typical use.

[c] χ^2 *p*-values are for comparisons between characteristics and type of contraceptive use.

[d] Includes diabetes, cardiovascular disease (heart attack, angina, coronary heart disease, or stroke), and current asthma.

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Table 2

Unadjusted Percentages and Crude and Adjusted Prevalence Ratios (95% Confidence Intervals) for Contraceptive Use and Chronic Disease

	Any method (*N* = 3957)			Less effective methods[a] (*N*= 853)			Effective/Highly effective methods[b] (*N* = 3104)		
Chronic disease status	**%Use**	**Crude PR (95% CI)**	**Adjusted PR (95% CI)[c]**	**%Use**	**Crude PR (95% CI)**	**Adjusted PR (95% CI)[c]**	**%Use**	**Crude PR (95% CI)**	**Adjusted PR (95% CI)[c]**
Any chronic disease[d]									
No	87.1	1.00	1.00	63.5	1.00	1.00	83.4	1.00	1.00
Yes	85.6	0.98 (0.92, 1.05)	0.99 (0.93, 1.06)	62.0	0.98 (0.78, 1.23)	0.96 (0.76, 1.21)	81.2	0.97 (0.89, 1.06)	0.99 (0.90, 1.07)
Diabetes									
No	86.9	1.00	1.00	62.7	1.00	1.00	83.2	1.00	1.00
Yes	89.8	1.03 (0.93, 1.14)	1.04 (0.94, 1.16)	80.2	1.28 (1.00, 1.64)	**1.34 (1.05, 1.72)**	82.5	0.99 (0.84, 1.17)	0.99 (0.83, 1.17)
Cardiovascular disease									
No	86.8	1.00	1.00	62.7	1.00	1.00	83.0	1.00	1.00
Yes	96.6	**1.11 (1.06, 1.17)**	**1.09 (1.04, 1.15)**	90.7	**1.45 (1.22, 1.71)**	**1.39 (1.13, 1.70)**	94.8	**1.14 (1.07, 1.22)**	**1.10 (1.03, 1.19)**
Current asthma									
No	87.3	1.00	1.00	64.0	1.00	1.00	83.6	1.00	1.00
Yes	83.2	0.95 (0.88, 1.04)	0.97 (0.89, 1.05)	56.1	0.88 (0.66, 1.16)	0.86 (0.65, 1.14)	78.7	0.94 (0.84, 1.05)	0.96 (0.86, 1.08)

Statistically significant findings are indicated in boldface.

[a] Less effective methods were defined as those associated with ≥10 unintended pregnancies per 100 women each year (*i.e.*, condoms, diaphragm, withdrawal, sponges, cervical caps, spermicides, rhythm) with typical use.

[b] Effective/highly effective methods were defined as those associated with <10 unintended pregnancies per 100 women each year (*i.e.*, female and male sterilization, pills, intrauterine devices, implants, shots, vaginal ring, patch) with typical use.

[c] Adjusted for maternal age, education, race/ethnicity, marital status, body mass index, health insurance plan, and having a personal doctor.

[d] Includes diabetes, cardiovascular disease (heart attack, angina, coronary heart disease, or stroke), and current asthma.

CI, confidence interval; PR, prevalence ratio.

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Table 3

Use of Specific Contraceptive Methods Among Women at Risk for Unintended Pregnancy, by Chronic Disease Status and Age

	Overall (*n* = 4473)			18–24 years (*n* = 455)		25–34 years (*n* = 1632)		≥35 years (*n* = 2386)	
Contraceptive method	**Total**	**Chronic disease**	**No chronic disease**	**Chronic disease**	**No chronic disease**	**Chronic disease**	**No chronic disease**	**Chronic disease**	**No chronic disease**
No use	13.0 (11.3, 15.1), *n* = 516	14.4 (9.9, 20.4), *n* = 84	12.9 (10.9, 15.1), *n* = 432	14.4 (4.5, 37.5), *n* = 6	19.9 (13.0, 29.1), *n* = 52	22.1 (12.7, 35.7), *n* = 28	11.8 (8.7, 15.7), *n* = 142	9.4 (5.6, 15.4), *n* = 50	11.8 (9.7, 14.2), *n* = 238
Male and female sterilization	32.3 (29.8, 34.9), *n* = 1710	37.4 (30.5, 44.9), *n* = 270	31.6 (29.0, 34.4), *n* = 1440	16.8 (5.1, 43.3), *n* = 6	5.3 (2.2, 12.3), *n* = 19	31.1 (21.1, 43.3), *n* = 84	20.2 (16.3, 24.9), *n* = 378	46.2 (35.5, 57.2), *n* = 180	47.3 (43.6, 51.0), *n* = 1043
Long-acting reversible contraceptive methods[a]	6.7 (5.6, 8.0), *n* = 341	4.0 (2.4, 6.8), *n* = 43	7.0 (5.8, 8.5), *n* = 298	*b*	8.2 (4.8, 13.5), *n* = 61	6.2 (3.1, 12.1), *n* = 26	8.3 (6.1, 11.1), *n* = 139	3.1 (1.3, 7.3), *n* = 14	5.8 (4.4, 7.7), *n* = 98
Barrier methods[c]	15.1 (13.0, 17.5), *n* = 556	13.0 (8.8, 18.8), *n* = 66	15.4 (13.1, 17.9), *n* = 490	37.2 (18.4, 60.9), *n* = 19	16.2 (9.7, 25.8), *n* = 80	8.8 (4.1, 18.0), *n* = 16	21.6 (17.4, 26.6), *n* = 220	10.2 (5.4, 18.3), *n* = 31	10.5 (8.3, 13.3), *n* = 190
Short-acting contraceptive methods[d]	25.5 (23.0, 28.2), *n* = 1053	20.7 (15.0, 27.8), *n* = 109	26.1 (23.4, 29.0), *n* = 944	28.1 (10.0, 57.7), *n* = 15	38.2 (29.1, 48.2), *n* = 157	25.6 (16.5, 37.4), *n* = 54	33.6 (28.6, 39.0), *n* = 444	15.9 (9.6, 25.1), *n* = 40	17.2 (14.6, 20.2), *n* = 343
Other[e]	7.4 (5.9, 9.2), *n* = 297	10.5 (5.1, 20.5), *n* = 45	7.0 (5.6, 8.7), *n* = 252	*b*	12.2 (6.6, 21.5), *n* = 33	6.2 (3.2, 11.7), *n* = 19	4.5 (3.1, 6.6), *n* = 82	15.3 (6.2, 32.9), *n* = 22	7.4 (5.7, 9.6), *n* = 137

Weighted column percentages with 95% confidence intervals and unweighted frequencies are presented.

[a] Includes intrauterine devices or contraceptive implants.

[b] Data not presented because cell count was <5.

[c] Includes condoms, diaphragms, cervical caps, or sponges.

[d] Includes pills, injections, rings, or patches.

[e] Includes withdrawal, foams, jellies, creams, unspecified other methods, or emergency contraception.