Published in final edited form as:

J Womens Health (Larchmt). 2017 August ; 26(8): 870–877. doi:10.1089/jwh.2016.5930.

Healthcare Provider Attitudes Regarding Contraception for Women with Obesity

Tara C. Jatlaoui, MD, MPH, **Lauren B. Zapata, PhD**, **Kathryn M. Curtis, PhD**, **Suzanne G. Folger, PhD**, **Polly A. Marchbanks, PhD**, **Michele G. Mandel**, and **Denise J. Jamieson, MD, MPH**

Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta, Georgia

Abstract

Background: Whether providers who regularly provide family planning services consider contraceptive methods as unsafe for women with obesity is unknown.

Methods: We analyzed questionnaire responses received from December 2009 to March 2010 from 635 office-based physicians and 1323 Title X clinic providers delivering family planning services, who were randomly sampled (response rate 65%) before the release of national evidence-based contraception guidelines. We examined provider and clinical setting characteristics and clinic patient demographics for association with provider misconceptions about safety of combined oral contraceptives (COCs), depot medroxyprogesterone acetate (DMPA), or intrauterine devices (IUDs) for women with obesity. If providers considered methods as unsafe or do not know, we categorized those responses as misconceptions. We used multivariable logistic regression to estimate adjusted odds ratios (aORs) and 95% confidence intervals (CIs).

Results: A substantial proportion of respondents had misconceptions about the safety of COCs (31%), DMPA (24%), copper (Cu) (18%), and levonorgestrel (LNG)-IUDs (16%) for women with obesity. Provider type was associated with increased odds of misconceptions for all four methods compared with office-based obstetrician/gynecologists. Not having the method available onsite was associated with safety misconceptions of DMPA (aOR 1.90, 95% CI 1.07–3.36), Cu-IUD (aOR 4.19, 95% CI 1.51–11.61), and LNG-IUD (aOR 5.25, 95% CI 1.67–16.49).

Conclusion: While the majority of providers considered all four contraceptive methods safe for women with obesity, substantial proportions had misconceptions about safety of COCs, DMPA, and IUDs. Provider education, particularly among certain specialties, is needed to increase knowledge regarding moderate and highly effective contraceptive methods among this patient population.

Keywords

providers attitudes on contraception for obese women; contraceptive safety misconceptions; contraception for women with obesity

Address correspondence to: Tara C. Jatlaoui, MD, MPH, Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta, GA 30341-3717, tjatlaoui@cdc.gov.

Author Disclosure Statement

No competing financial interests exist.

Introduction

WOMEN WITH OBESITY have similar or higher rates of unintended pregnancy than women without obesity.[1,2] Pregnancies in the context of maternal obesity are associated with increased risk of adverse maternal and neonatal outcomes such as gestational diabetes, hypertensive disorders, depression, operative or surgical deliveries, infection, pre-term birth, congenital anomalies, and perinatal death.[3] Over half of women with obesity who are at risk of unintended pregnancy either do not use a contraceptive method or use the least effective methods.[4]

To address the unmet needs for contraception among women with certain characteristics or medical conditions, including obesity, the Centers for Disease Control and Prevention (CDC) released the United States Medical Eligibility Criteria for Contraceptive Use (US MEC) in 2010, adapted from the World Health Organization MEC. The US MEC offers recommendations for the safe use of hormonal and nonhormonal methods.[5] It includes recommendations for providers to guide the use of combined hormonal contraceptives (pills, patch, and vaginal ring), progestin-only contraceptives (pills, depot medroxyprogesterone acetate [DMPA], and the implant), and levonorgestrel (LNG)- and copper-bearing (Cu)-intrauterine devices (IUDs) for women with obesity.[5]

Recommendations state that women with obesity can use without restriction (US MEC category 1) or generally can use, as benefits outweigh any theoretical risks (US MEC category 2), all methods of combined hormonal contraceptives, progestin-only contraceptives, and IUDs. Providers may be concerned, however, that hormonal contraceptives may increase the risks for venous thromboembolism (VTE), weight gain, or other adverse events among women with obesity.

The purpose of this analysis was to describe the attitudes of healthcare providers on the safety of contraception for women with obesity and identify factors associated with provider misconceptions of contraceptive safety before the release of recommendations in the US MEC for this patient population.

Materials and Methods

Before publication of the US MEC in 2010, CDC mailed a baseline questionnaire to a random sample of 4000 providers, including office-based physicians (OBPs) and public-sector Title X clinic providers, asking about their attitudes regarding the safety of and providing practices for various contraceptives for certain groups of women. OBPs were randomly sampled from the American Medical Association Physician Masterfile in the specialties of obstetrics and gynecology, family medicine, and adolescent medicine. Title X clinics were randomly sampled from a directory at the Office of Population Affairs.

We considered each OBP and one healthcare provider from each Title X clinic eligible to participate if they provided family planning services to reproductive-aged women twice per week or more. We calculated response rates based on recommendations from the Council of American Survey Research Organizations, which assume that the proportion of eligible respondents among those with unknown eligibility is equivalent to the proportion of eligible

respondents in the subgroup with known eligibility or ineligibility. The overall response rate was 64.8%. We excluded nonclinician respondents (n = 8 counselors or educators) and those with missing data on provider type (n = 37), a variable created for this analysis to describe provider clinical focus and occupation across sampling strata. The final analytic sample included 1958 family planning providers (n = 635 OBPs and n = 1323 Title X clinic providers).

We weighted data to adjust for nonresponse and the probability of selection into the sample within each OBP specialty and for all Title X clinics. CDC determined the project to be nonresearch/public health practice, thus IRB approval was not required. More detailed methods have been previously described.[6,7]

This analysis examined healthcare provider attitudes regarding the safety of combined oral contraceptives (COCs), DMPA, LNG-IUDs, and Cu-IUDs for obese women (BMI ≥30 kg/m^2). Respondents were asked whether they considered each of the four methods to be very safe, safe, unsafe, or very unsafe for obese women, or whether they did not know. Since the US MEC considers these four methods to be safe or generally safe for women with obesity (US MEC category 1 or 2), we combined responses of “very safe” and “safe,” and “unsafe” and “very unsafe.”

We first described the sample by sampling strata, OBPs, and Title X clinic providers, for characteristics not previously reported among the analytic sample of 1958 clinicians.[7] We then estimated the prevalence of provider attitudes about the safety of contraception for women with obesity for each of the four contraceptive methods by sample characteristics and used the Rao-Scott chi-square test to examine significant differences between groups ($p < 0.05$). This was done among OBPs and Title X clinic providers combined because differences in the two sampling strata were captured by the created six-level variable provider type, which categorized OBP respondents into obstetrician/gynecologist (OB/GYN), family medicine physician, or adolescent medicine physician and categorized Title X providers into physician, advanced care provider, or nurse. We defined advanced care providers as certified nurse midwives, nurse practitioners, and physician assistants.

We examined potential differences in provider attitudes by provider characteristics (*e.g.*, provider type, sex, time since completing medical training, number of days of formal family planning training during clinical education, time spent discussing family planning per patient, and whether the provider was trained in either Cu- or LNG-IUD interval insertion), clinical setting characteristics (*e.g.*, primary setting type, region of the United States, and availability of methods onsite), and patient demographics (*e.g.*, number of reproductive-aged females seen per week, proportion of female patients of reproductive age who receive family planning services, and proportion of patients aged less than 20 and greater than 35 years).

When we compared factors associated with responses of “unsafe or very unsafe” to factors associated with responses of “don’t know” in chi-square analyses, we found similar results; thus, we combined responses of “don’t know” with responses of “unsafe or very unsafe” for the remainder of analyses and considered these responses to be misconceptions about the safety of contraceptive methods for women with obesity.

We used logistic regression to calculate unadjusted and adjusted odds ratios and 95% confidence intervals (CIs) to determine factors associated with provider misconceptions. To identify factors to include in multivariable models, unadjusted odds ratios (ORs) were computed for all factors significantly associated with provider attitudes in chi-square analyses.

We then selected a common set of covariates that included factors significant in at least one unadjusted model across the four contraceptive methods. This common set of covariates used in multivariable models for all four contraceptive methods included the following: provider type, sex, primary setting, number of days of formal family planning training during clinical education, and proportion of women to whom they provide family planning services. For the COC and DMPA multivariable models, we also included onsite availability of that particular method. For the Cu-IUD and LNG-IUD multivariable models, we included training in IUD interval insertion and onsite availability of IUDs (both types, one type, and none).

We tested for collinearity, which was not found between any covariates. All analyses were performed using SAS 9.3 survey procedures to account for the complex sample design.

Results

OBPs and Title X clinic providers differed significantly by provider, clinical setting, and patient demographic characteristics (Table 1). According to previously published findings from these data, more OBPs than Title X providers were male and completed formal medical training 25 years ago or more, and fewer OBPs reported high proportions (>50%) of female patients who received family planning services, who used Medicaid or other financial assistance, who were racial or ethnic minorities, and who were non-English speaking.[7] The majority of OBPs worked in the private/health maintenance organization (HMO) setting and the majority of Title X providers worked in community health centers, health departments, or classified their setting as other, followed by family planning clinics (Planned Parenthood affiliate or family planning clinic) (Table 1).

Time spent per patient discussing family planning, training in family planning, IUD interval insertion training and onsite availability of contraceptive methods also differed significantly between OBPs and Title X providers (Table 1). Significantly, more Title X providers spent 10 minutes or more discussing family planning per patient compared with OBPs. The proportion of providers receiving 5 or more days of formal family planning training during their education was significantly higher for OBPs than Title X providers, although both exceeded 80%. More OBPs reported prior training in IUD interval insertion compared with Title X providers. While more Title X providers than OBPs reported onsite availability of COCs, DMPA, and Cu-IUDs, more OBPs than Title X providers reported onsite availability of LNG-IUDs and reported onsite availability of both IUD types.

The majority of both OBPs and Title X providers considered all four methods of contraception to be safe or very safe for women with obesity (Table 1). However, the distribution of providers' attitudes about safety of COCs and DMPA differed significantly; a

greater proportion of OBPs than Title X providers considered COCs and DMPA as unsafe or very unsafe for women with obesity, while a greater proportion of Title X providers than OBPs were uncertain. Substantial proportions of both OBPs and Title X providers were uncertain whether IUDs are safe for women with obesity (10%–14%).

In adjusted analyses, the odds of provider misconceptions (unsafe, very unsafe, or don't know) regarding the safety of COCs or DMPA for women with obesity varied by provider type, primary setting, the proportion of female patients of reproductive age who receive family planning services, and onsite availability (Table 2). Compared with office-based OB/GYNs, the odds of misconceptions about COCs were higher among office-based family medicine physicians, Title X physicians, and Title X nurses. All provider types except Title X-advanced care providers had increased odds of misconceptions about the safety of DMPA for women with obesity compared with office-based OB/GYNs. Providers working in a private or HMO setting also had increased odds of misconceptions regarding COCs and DMPA compared with providers working in family planning clinics. Providers who worked in community health centers, health departments, or other settings, university, or hospital settings also had increased odds of misconceptions regarding DMPA. Providers delivering family planning services to 0%–24% or 50%–74% of their female patients of reproductive age had increased odds of misconceptions regarding COCs compared with providers delivering these services to 75% or more reproductive-aged female patients. This variable was not significantly associated with misconceptions regarding DMPA. Misconceptions regarding DMPA were observed for providers who did not have DMPA available onsite; not having COCs available onsite was not associated with COC misconceptions for women with obesity.

The prevalence of provider misconceptions regarding the safety of Cu-IUD or LNG-IUD for women with obesity varied by provider type and sex, percent of female patients of reproductive age to whom they provide family planning services, whether they were trained in IUD interval insertion, and onsite availability of IUDs (Table 3).

Compared with office-based OB/GYNs, all other provider types had increased odds of misconceptions about the safety of Cu-IUDs and LNG-IUDs for women with obesity with adjusted ORs exceeding 5.0 (although 95% CIs were wide); odds were highest among office-based adolescent medicine and family medicine physicians and Title X nurses.

Male providers had more than twice the odds compared with female providers of misconceptions about the safety of IUDs for women with obesity, but this association was only significant for LNG-IUDs.

Compared with providers who reported providing family planning services to 75% or more of their female patients of reproductive age, providers who reported lower percentages of such service delivery had higher odds of misconceptions about the safety of Cu-IUD for women with obesity with adjusted ORs exceeding 3.0, but this was not a significant association for LNG-IUD.

Providers not trained in IUD interval insertion had increased odds of misconceptions about the safety of Cu-IUDs for women with obesity, but again this was not a significant association for LNG-IUD.

Providers who reported no onsite availability of either IUD type had increased odds of misconceptions about the safety of Cu-IUD and LNG-IUD for women with obesity compared with providers who reported that both IUD types were available onsite with adjusted ORs exceeding 4.0; providers who reported having one IUD available onsite had significantly increased odds of misconceptions about the safety of Cu-IUD, but this was not a significant association for LNG-IUD.

Discussion

This analysis finds that among healthcare providers who provide family planning services to reproductive-aged women twice per week or more, a substantial proportion has misconceptions regarding the safety of contraceptive methods for women with obesity. While it is reassuring that the majority of providers consider these methods safe for women with obesity, it is concerning that substantial proportions consider COCs, DMPA, and IUDs unsafe or were uncertain about their safety for these women.

For obese women, providers may be concerned about potential comorbidities, or about side effects and adverse events, such as weight gain and venous or arterial events; risks for these outcomes vary by contraceptive method.[8,9] It is possible that providers consider DMPA as unsafe for obese women given potential risk for weight gain seen among overweight or obese adolescents, although data do not show a significant change in weight among adult DMPA users.[9] Since users of COCs (which contain estrogen) are at an increased risk of VTE compared with nonusers, it is also possible that providers consider COCs unsafe for women with obesity, another risk factor for VTE; still, the absolute risks for VTE are low.[8,10] Recommendations from both CDC and ACOG support the use of these methods for women with obesity.[5,11]

Reasons for provider misconceptions about the safety of IUDs are less clear. It is possible that providers are unsure whether they can successfully place an IUD in a women with obesity, they may be concerned that a difficult placement may increase complications such as perforations, or they may have concerns with bleeding abnormalities common among obese women that may affect IUD acceptability or continued use.[12,13]

Previous studies have found that, despite evidence-based guidelines supporting the safety of contraceptive use—IUDs in particular—providers may not consider IUDs appropriate for certain patients and thus are not likely to discuss or recommend them.[7,14,15] These studies also identified similar factors associated with provider misconceptions about the safety of IUDs, such as provider type, fewer proportions of patients receiving contraceptive services, method availability, and IUD training. In our adjusted models, misconceptions for all four methods were associated with provider type. The unavailability of the methods onsite was also associated with misconceptions for DMPA and both IUDs. Other factors associated with

misconceptions for some, but not all, methods included primary setting, percentage of women with whom they provide family planning services, sex of provider, and IUD training.

It is possible that providers who have more exposure to contraception through on-the-job training, higher frequency of contraceptive visits, or contraception available onsite are more knowledgeable about providing contraception to specific patient populations. Two recent studies have demonstrated that continuing education, both didactic and hands-on training, are critical for IUD provision, especially for patient populations less likely to access IUDs, such as adolescents or postpartum women,[15,16] and may be useful to increase IUD access for women with obesity. A recent randomized trial demonstrated that evidence-based training on counseling and insertion of long-acting reversible contraceptives (LARC and IUDs) increased LARC utilization and decreased pregnancy rates at intervention sites compared with control sites.[17]

Our analysis is subject to several limitations. Our survey questions did not define safety, and safety may have been interpreted by respondents as effectiveness. In the event respondents considered effectiveness an aspect of safety, we may have overestimated the proportion of respondents with true safety misconceptions. While there are data demonstrating pharmacokinetic differences for women with obesity using COCs and DMPA compared with nonobese women,[18] limited clinical data overall do not demonstrate an increased risk for unintended pregnancy among contraceptive users with obesity.[19–22] Our survey defined obesity as BMI ≥30 kg/m^2 and it is possible that providers perceive safety of these methods differently for women of different obesity classes (*e.g.*, BMI ≥40 kg/m^2), which our survey could not assess.

Although our overall response rate, 65%, is within the range of other provider surveys,[23] we are unable to determine how respondents differed from nonrespondents related to our outcomes of interest. All data were self-reported and certain characteristics may be influenced by recall bias. Finally, other factors that may influence provider attitudes about the safety of contraception for women with obesity were not assessed, such as patient preferences for contraception, insurance coverage, whether providers themselves were obese, and the proportion of patients that respondents serve who are obese.

For women with obesity, any risk of adverse events from using contraception will likely be outweighed by the benefits of contraception to prevent the risks faced during an unintended pregnancy and in the postpartum period. As rates of obesity remain high, efforts are needed to address the risk of unintended pregnancy among this patient population and help patients choose and continue safe and effective methods of contraception. One recent study found that obese women who discuss contraception with a provider are more likely to use effective contraception, yet over half report no recent discussion of contraception with a provider.[4]

It is important that providers caring for women with obesity, which span primary and specialty care, identify female patients of reproductive age at risk for unintended pregnancy and counsel accordingly regarding contraception. The U.S. Medical Eligibility Criteria supports the safe use of the most effective methods and moderately effective methods for women with obesity.[5] Since the release of these recommendations, CDC has developed

provider tools, apps, and webinars and partnered with professional organizations to disseminate these guidelines and future research may evaluate progress with these efforts.

Training providers in counseling and provision of contraception methods for women with obesity are imperative next steps to implement these recommendations, as well as change provider attitudes and reduce barriers to contraception for this population. Hands-on trainings can start in medical or nursing school and residency, and should be available for continued education.

Conclusion

While the majority of providers considered all four contraceptive methods safe for women with obesity, substantial proportions had misconceptions about safety of COCs, DMPA, and IUDs. Provider education, particularly among certain specialties, is needed to increase knowledge regarding moderate and highly effective contraceptive methods among this patient population.

Acknowledgment

The study was supported by the Centers for Disease Control and Prevention.

Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

References

1. Kaneshiro B, Edelman A, Carlson N, Nichols M, Jensen J. The relationship between body mass index and unintended pregnancy: Results from the 2002 National Survey of Family Growth. Contraception 2008;77:234–238. [PubMed: 18342645]
2. Brunner Huber LR, Hogue CJ. The association between body weight, unintended pregnancy resulting in a livebirth, and contraception at the time of conception. Matern Child Health J 2005;9:413–420. [PubMed: 16235025]
3. Marchi J, Berg M, Dencker A, Olander EK, Begley C. Risks associated with obesity in pregnancy, for the mother and baby: A systematic review of reviews. Obes Rev 2015;16:621–638. [PubMed: 26016557]
4. Callegari LS, Nelson KM, Arterburn DE, Prager SW, Schiff MA, Schwarz EB. Factors associated with lack of effective contraception among obese women in the United States. Contraception 2014;90:265–271. [PubMed: 24950888]
5. Centers for Disease Control and Prevention. U.S. Medical Eligibility Criteria for Contraceptive Use, 2010. MMWR Recomm Rep 2010;59:1–86.
6. Centers for Disease Control and Prevention. Contraceptive methods available to patients of office-based physicians and title X clinics—United States, 2009–2010. MMWR Morb Mortal Wkly Rep 2011;60:1–4.
7. Tyler CP, Whiteman MK, Zapata LB, Curtis KM, Hillis SD, Marchbanks PA. Health care provider attitudes and practices related to intrauterine devices for nulliparous women. Obstet Gynecol 2012;119:762–771. [PubMed: 22433340]
8. Edelman AB, Jensen JT. Obesity and hormonal contraception: Safety and efficacy. Semin Reprod Med 2012;30: 479–485. [PubMed: 23074006]
9. Curtis KM, Ravi A, Gaffield ML. Progestogen-only contraceptive use in obese women. Contraception 2009;80: 346–354. [PubMed: 19751857]

10. Trussell JG, Guthrie KA, Schwarz EB. Much ado about little: Obesity, combined hormonal contraceptive use and venous thrombosis. Contraception 2008;77:143–146. [PubMed: 18279682]
11. ACOG Committee on Practice Bulletins-Gynecology. ACOG practice bulletin. No. 73: Use of hormonal contraception in women with coexisting medical conditions. Obstet Gynecol 2006;107:1453–1472. [PubMed: 16738183]
12. Simmons KB, Edelman AB. Contraception and sexual health in obese women. Best Pract Res Clin Obstet Gynaecol 2015;29:466–478. [PubMed: 25498914]
13. Kaneshiro B, Edelman A. Contraceptive considerations in overweight teens. Curr Opin Obstet Gynecol 2011;23:344–349. [PubMed: 21666461]
14. Harper CC, Blum M, de Bocanegra HT, et al. Challenges in translating evidence to practice: The provision of intrauterine contraception. Obstet Gynecol 2008;111:1359–1369. [PubMed: 18515520]
15. Luchowski AT, Anderson BL, Power ML, Raglan GB, Espey E, Schulkin J. Obstetrician-gynecologists and contraception: Practice and opinions about the use of IUDs in nulliparous women, adolescents and other patient populations. Contraception 2014;89:572–577. [PubMed: 24679477]
16. Luchowski AT, Anderson BL, Power ML, Raglan GB, Espey E, Schulkin J. Obstetrician-gynecologists and contraception: Long-acting reversible contraception practices and education. Contraception 2014;89:578–583. [PubMed: 24656553]
17. Harper CC, Rocca CH, Thompson KM, et al. Reductions in pregnancy rates in the USA with long-acting reversible contraception: A cluster randomised trial. Lancet 2015;386: 562–568. [PubMed: 26091743]
18. Edelman AB, Cherala G, Stanczyk FZ. Metabolism and pharmacokinetics of contraceptive steroids in obese women: A review. Contraception 2010;82:314–323. [PubMed: 20851224]
19. Lopez LM, Grimes DA, Chen M, et al. Hormonal contraceptives for contraception in overweight or obese women. Cochrane Database Syst Rev 2013;4:CD008452.
20. McNicholas C, Zhao Q, Secura G, Allsworth JE, Madden T, Peipert JF. Contraceptive failures in overweight and obese combined hormonal contraceptive users. Obstet Gynecol 2013;121:585–592. [PubMed: 23635622]
21. Trussell J, Schwarz EB, Guthrie K. Obesity and oral contraceptive pill failure. Contraception 2009;79:334–338. [PubMed: 19341843]
22. Yamazaki M, Dwyer K, Sobhan M, et al. Effect of obesity on the effectiveness of hormonal contraceptives: An individual participant data meta-analysis. Contraception 2015; 92:445–452. [PubMed: 26247330]
23. McLeod CC, Klabunde CN, Willis GB, Stark D. Health care provider surveys in the United States, 2000–2010: A review. Eval Health Prof 2013;36:106–126. [PubMed: 23378504]

Table 1.

CHARACTERISTICS OF U.S. HEALTHCARE PROVIDER RESPONDENTS (N = 1958)

	Office-based physicians (n = *635) (weighted %)*	*Title X clinic providers* (n = *1323) (weighted %)*
Primary setting *		
Private/HMO	456 (74.4)	31 (2.3)
CHC/HD/Other	63 (12.5)	889 (67.2)
University, Hospital	101 (11.3)	33 (2.5)
Family planning clinic	4 (0.3)	328 (24.8)
Days of formal family planning training during clinical education *		
Less than 5 days	70 (13.0)	232 (17.5)
5 or more days	557 (85.7)	1083 (81.9)
Number of female patients of reproductive age seen per week *		
0–5	7 (0.9)	48 (3.6)
6–20	102 (19.0)	281 (21.2)
21–50	247 (42.8)	524 (39.6)
51–100	208 (26.8)	341 (25.8)
more than 100	43 (5.4)	49 (3.7)
Time spent per patient when discussing family planning *		
Less than 5 minutes	71 (16.4)	41 (3.1)
5–9 minutes	287 (47.0)	306 (23.1)
10 minutes or more	275 (36.1)	968 (73.2)
Trained in either Cu- or LNG-IUD interval insertion *		
Yes	481 (77.0)	722 (54.6)
No	154 (23.0)	601 (45.4)
Percentage of patients 35 years or older *		
0%–24%	242 (27.6)	794 (60.0)
25%–49%	318 (60.6)	481 (36.4)
50% or more	65 (11.0)	33 (2.5)
Availability of COC onsite *		
Yes	310 (39.8)	1219 (92.1)

J Womens Health (Larchmt). Author manuscript; available in PMC 2019 May 13.

	Office-based physicians (n = 635) *(weighted %)*	*Title X clinic providers* (n = 1323) *(weighted %)*
No	325 (60.2)	104 (7.9)
Availability of DMPA onsite *		
Yes	387 (61.3)	1278 (96.6)
No	248 (38.7)	45 (3.4)
Availability of copper IUD onsite *		
Yes	340 (51.5)	786 (59.4)
No	295 (48.5)	537 (40.6)
Availability of LNG-IUD onsite *		
Yes	358 (54.5)	611 (46.2)
No	277 (45.5)	712 (53.8)
Availability of IUDs onsite *		
Both types	333 (50.4)	582 (44.0)
One type	32 (5.1)	233 (17.6)
None	270 (44.4)	508 (38.4)
Use of COCs by women with obesity *		
Safe or very safe	461 (67.0)	935 (70.7)
Unsafe or very unsafe	147 (29.5)	291 (22.0)
Don’t know	10 (1.2)	41 (3.1)
Use of DMPA by women with obesity *		
Safe or very safe	497 (74.3)	1116 (84.4)
Unsafe or very unsafe	105 (22.2)	147 (11.1)
Don’t know	21 (2.1)	43 (3.3)
Use of copper IUD by women with obesity		
Safe or very safe	526 (80.3)	1074 (81.2)
Unsafe or very unsafe	20 (5.4)	36 (2.7)
Don’t know	74 (12.6)	185 (14.0)
Use of LNG-IUD by women with obesity *		
Safe or very safe	546 (82.4)	1050 (79.4)
Unsafe or very unsafe	22 (6.0)	44 (3.3)
Don’t know	50 (9.5)	190 (14.4)

Data are unweighted *n*, weighted %. Characteristics including provider type (by clinical focus and occupation), sex, time since completion of medical training, region of the United States, proportion of female patients who receive family planning services, proportion of female patients with Medicaid or other assistance, proportion of racial or ethnic minority patients and proportion of non-English speaking female patients have been previously described.[7]

$^{*}p < 0.05$ using Rao-Scott χ^2.

CHC, community health center; COC, combined oral contraceptives; DMPA, depot medroxyprogesterone acetate; HD, health department; HMO, health management organization; IUD, intrauterine device; LNG, levonorgestrel.

Table 2.

PREVALENCE AND FACTORS ASSOCIATED WITH CONSIDERING COCS AND DMPA UNSAFE, VERY UNSAFE, OR DON'T KNOW, U.S. HEALTHCARE PROVIDER RESPONDENTS (N = 1958)

		COCs		*DMPA*	
		***Unsafe, very unsafe, or don't know* (n = 489, 31.1%)**		***Unsafe, very unsafe,or don't know* (n = 316, 23.9%)**	
Characteristic	***Total* n (%)**	**n *(%)***	***Adjusted OR (95% CI)*****	**n *(%)***	***Adjusted OR (95% CI)*****
Provider Type*,†					
Office-based OB/GYN physician	390 (41.6)	81 (21.3)	1.00 referent	59 (15.4)	1.00 referent
Office-based family medicine physician	139 (51.3)	54 (39.7)	2.66 (1.58, 4.47)	44 (32.1)	2.63 (1.49, 4.62)
Office-based adolescent medicine physician	106 (0.3)	22 (21.8)	1.77 (0.98, 3.20)	23 (22.5)	2.39 (1.24, 4.61)
Title X physician	144 (0.8)	40 (29.0)	2.61 (1.18, 5.77)	31 (22.1)	4.08 (1.65, 10.12)
Title X advanced care provider	825 (4.3)	153 (19.3)	2.24 (0.99, 5.10)	82 (10)	2.50 (0.98, 6.36)
Title X nurse	354 (1.8)	139 (41.1)	5.58 (2.24, 13.86)	77 (22.1)	4.26 (1.50, 12.12)
Sex					
Male	360 (46.5)	110 (36.0)	1.34 (0.80, 2.24)	79 (26.8)	1.29 (0.72, 2.31)
Female	1584 (53.5)	375 (27.0)	1.00 referent	232 (20.3)	1.00 referent
Primary setting*					
Private/HMO	487 (70.6)	131 (33.9)	2.28 (1.03, 5.04)	94 (26.7)	8.96 (3.31, 24.22)
CHC/HD/Other	952 (16.6)	256 (29.1)	1.26 (0.84, 1.88)	168 (16.8)	4.55 (2.50, 8.27)
University, Hospital	134 (10.8)	28 (17.3)	0.78 (0.25, 2.47)	31 (19.6)	6.12 (1.74, 21.59)
Family planning clinic	332 (2.1)	58 (15.2)	1.00 referent	12 (3.1)	1.00 referent
Days of formal family planning training during clinical education†					
Less than 5 days	302 (13.5)	81 (39.5)	1.34 (0.66, 2.72)	72 (35.2)	1.84 (0.88, 3.88)
5 or more days	1640 (86.5)	405 (30.0)	1.00 referent	240 (21.9)	1.00 referent
Proportion of female patients of reproductive age who receive family planning services*,†					
0%–24%	158 (17.8)	72 (51.6)	3.07 (1.38, 6.82)	62 (43.9)	1.81 (0.77, 4.29)
25%–49%	340 (27.7)	101 (29.8)	1.69 (0.87, 3.30)	70 (24.6)	1.12 (0.54, 2.31)
50%–74%	484 (27.5)	128 (32.6)	2.10 (1.11, 3.96)	80 (17.3)	0.68 (0.32, 1.48)
75% or more	961 (26.9)	185 (16.7)	1.00 referent	100 (16.7)	1.00 referent

Characteristic	Total n (%)	COCs: Unsafe, very unsafe, or don't know (n = 489, 31.1%) n (%)	COCs: Adjusted OR (95% CI)**	DMPA: Unsafe, very unsafe,or don't know (n = 316, 23.9%) n (%)	DMPA: Adjusted OR (95% CI)**
Availability of method onsite†					
Yes	1529/1665 (43.4/63.7)	363 (27.6)	1.00 referent	238 (19.6)	1.00 referent
No	429/293 (56.6/36.3)	126 (33.7)	0.88 (0.52, 1.49)	78 (31.6)	1.90 (1.07, 3.36)

Data are unweighted *n*, weighted %; percentages may not total 100 due to missing values.

*$p < 0.05$ COCs.

**Model included all variables listed.

†$p < 0.05$ for DMPA.

CI, confidence interval; OB/GYN, obstetrician/gynecologist; OR, odds ratio.

J Womens Health (Larchmt). Author manuscript; available in PMC 2019 May 13.

Table 3.

PREVALENCE AND FACTORS ASSOCIATED WITH CONSIDERING CU-IUD AND LNG-IUD UNSAFE, VERY UNSAFE, OR DON'T KNOW, U.S. HEALTHCARE PROVIDER RESPONDENTS (N = 1958)

	Cu-IUD		*LNG-IUD*	
	***Unsafe, very unsafe, or don't know* (n = 315, 18.2%)**		***Unsafe, very unsafe, or don't know* (n = 306, 16.0%)**	
Characteristics	**n *(%)***	***Adjusted OR (95% CI)*** **	**n *(%)***	***Adjusted OR (95% CI)*** **
Provider type *				
Office-based OB/GYN physician	11 (2.9)	1.00 referent	10 (2.6)	1.00 referent
Office-based family medicine physician	42 (30.7)	7.47 (3.10, 18.02)	36 (26.5)	6.52 (2.74, 15.51)
Office-based adolescent medicine physician	41 (40.6)	45.55 (10.42, 199.16)	26 (26.0)	9.98 (2.70, 36.88)
Title X physician	17 (12.1)	8.72 (1.86, 40.81)	25 (18.4)	9.39 (2.04, 43.33)
Title X advanced care provider	68 (8.4)	13.70 (2.66, 70.56)	71 (8.8)	7.19 (1.25, 41.46)
Title X nurse	136 (39.4)	47.0 (7.67, 287.56)	138 (40.5)	24.50 (3.67, 163.34)
Sex *				
Male	57 (23.2)	2.27 (0.95, 5.44)	58 (20.9)	2.71 (1.13, 6.51)
Female	255 (13.5)	1.00 referent	245 (11.4)	1.00 referent
Primary setting *				
Private/HMO	71 (22.7)	3.74 (0.85, 16.37)	59 (18.0)	1.35 (0.33, 5.59)
CHC/HD/Other	191 (10.6)	0.89 (0.47, 1.70)	207 (16.0)	1.13 (0.61, 2.09)
University, Hospital	25 (1.7)	0.18 (0.02, 1.42)	13 (3.8)	0.34 (0.03, 3.65)
Family planning clinic	19 (4.9)	1.00 referent	22 (5.7)	1.00 referent
Days of formal family planning training during clinical education *				
Less than 5 days	79 (33.3)	1.80 (0.67, 4.84)	79 (30.6)	1.75 (0.72, 4.28)
5 or more days	234 (15.7)	1.00 referent	225 (13.5)	1.00 referent
Proportion of female patients of reproductive age who receive family planning services *				
0%–24%	60 (38.9)	4.96 (1.41, 17.43)	57 (36.3)	2.61 (0.76, 9.01)
25%–49%	65 (22.0)	5.59 (1.85, 16.90)	58 (17.2)	2.32 (0.75, 7.14)
50%–74%	83 (15.5)	3.40 (1.03, 11.19)	73 (10.8)	1.19 (0.33, 4.25)
75% or more	104 (3.3)	1.00 referent	115 (6.7)	1.00 referent

	Cu-IUD		*LNG-IUD*	
	***Unsafe, very unsafe, or don't know* (n = 315, 18.2%)**		***Unsafe, very unsafe, or don't know* (n = 306, 16.0%)**	
Characteristics	**n *(%)***	***Adjusted OR (95% CI)*** **	**n *(%)***	***Adjusted OR (95% CI)*** **
Trained in IUD interval insertion *				
Yes	52 (7.8)	1.00 referent	61 (8.3)	1.00 referent
No	263 (50.2)	3.48 (1.43, 8.46)	245 (39.5)	2.11 (0.87, 5.09)
Availability of IUDs onsite *				
Both types	43 (3.2)	1.00 referent	49 (3.9)	1.00 referent
One type	30 (29.9)	6.45 (1.60, 26.08)	43 (15.0)	2.60 (0.36, 18.55)
None	242 (34.0)	4.19 (1.51, 11.61)	214 (29.9)	5.25 (1.67, 16.49)

Data are unweighted *n*, weighted %; percentages may not total 100 due to missing values.

* $p < 0.05$ for both methods.

** Model included all variables listed.