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Healthcare Provider Attitudes of Safety of Intrauterine Devices in the Postpartum Period

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Abstract

Objective: Immediate postpartum intrauterine devices (IUDs) have been underutilized in the United States despite their known safety. Understanding how providers' attitudes contribute to underutilization is important in improving access. Our objective was to examine healthcare providers' perceptions of the safety of immediate postpartum IUDs before publication of United States contraceptive guidelines.

Materials and Methods: We analyzed survey data collected from December 2009 to March 2010 from 635 office-based physicians and 1368 Title X clinic providers (overall response rate of 64.8%). Providers were asked how safe they thought copper and levonorgestrel (LNG) IUDs were in postpartum women (very safe, safe, unsafe, very unsafe, and unsure). Multivariable logistic regression was used to calculate adjusted odds ratios (aORs) and 95% confidence intervals (95% CIs) for characteristics associated with considering immediate and delayed postpartum IUDs to be safe.

Results: Less than 40% of respondents considered immediate or delayed IUD insertion to be safe. Providers with <1 day of family planning training had decreased odds of considering immediate postpartum IUD insertion to be safe compared with unsafe/unsure (aOR 0.18, 95% CI 0.04–0.84 for copper IUD and aOR 0.17, 95% CI 0.04–0.81 for LNG-IUD). Providers without training in postpartum or interval copper IUD insertion had decreased odds of considering immediate postpartum copper IUD insertion (aOR 0.40, 95% CI 0.16–0.79) and delayed postpartum insertion for both IUD types to be safe (aOR 0.34, 95% CI 0.18–0.66 for copper IUD and aOR 0.41, 95% CI 0.21–0.77 for LNG-IUD).

Conclusions: Before United States contraceptive guidelines, a majority of providers perceived immediate postpartum IUDs to be unsafe.

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Author Disclosure Statement

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Keywords

contraception; postpartum; intrauterine devices; providers

Introduction

THE POSTPARTUM PERIOD is a convenient opportunity to initiate contraception before resumption of ovulation and is particularly critical for certain subgroups of women among whom only 2 out of 3 return for postpartum care.[1] Long-acting reversible methods of contraception, such as intrauterine devices (IUDs) and implants, are ideal methods for many postpartum women, because they are highly effective, provide contraceptive benefit for 3–10 years, and are safe for insertion in the postpartum period, regardless of breastfeeding status.[2] Increased evidence on the safety of this practice has led to recent and significant evolution of recommendations supporting the safety of postpartum insertion.[2,3]

Because reimbursement is often a barrier to access, an increasing number of states are providing Medicaid coverage for immediate postpartum insertion.[4] However, rates of initiation of IUDs in the postpartum period remain relatively low in the United States, with one study demonstrating insertion during delivery hospitalization at 0.27 per 10,000 deliveries.[5] Provider knowledge and attitudes about IUD safety have an important role in utilization of IUDs in the postpartum period. A recent survey of obstetrician gynecologists found that although more than 85% provided IUDs, only 10% provided them in the postpartum period.[6] Another survey found that only 33% of women's healthcare providers agreed that IUD insertion in the immediate postpartum period is safe.[7] This may be due to a lack of formal training, availability of methods, or concerns regarding complications such as expulsion or infection.

The aims of this analysis were to assess provider attitudes, before the publication of the United States Medical Eligibility Criteria for Contraceptive Use (US MEC) by CDC in 2010, regarding safety of postpartum IUD use, and to identify provider factors associated with these safety attitudes. Changes in provider behavior often lag behind more recent evidence and guidelines.[8] By examining attitudes before publication of the US MEC, we sought to determine a baseline by which to measure penetration of the guidelines and characteristics of providers who may warrant more targeted approaches.

Materials and Methods

Data are from a nationally representative survey of office-based physicians and Title X clinic providers, which has been previously described.[9,10] Briefly, from December 2009 to March 2010, surveys were mailed to a random sample of 4000 healthcare providers. Office-based physicians (n = 2000) were sampled 3 from the American Medical Association Physician Masterfile and included physicians from three specialties that provide the majority of the family planning services in the United States: obstetrics and gynecology, family medicine, and adolescent medicine. Title X clinics (n = 2000) were randomly sampled from a directory maintained by the Office of Population Affairs, which administers the Title X

family planning program, and a randomly selected healthcare provider from each clinic was asked to complete the survey.

Providers were eligible to participate in the survey if they provided family planning services to at least two women of reproductive age per week. A family planning service was defined as any service related to postponing or preventing pregnancy (*e.g.*, a medical examination related to providing a method, contraceptive counseling, method prescription, or supply visit). There were no incentives provided to complete the survey.

The survey included questions on provider demographic characteristics, clinical practice characteristics, contraceptive training, and attitudes and practices related to the safety of various contraceptive methods for women with select characteristics or medical conditions. After initial mailing of the survey, a reminder postcard was sent followed by a second mailing of the survey to nonrespondents. Additional attempts by telephone were made to contact nonrespondents.

The main outcome for this analysis was provider attitudes toward the safety of the copper and levonorgestrel (LNG) IUDs in postpartum women. Respondents were asked about safety attitudes for each IUD separately and for two time periods, immediately postpartum (less than 10 minutes after delivery of the placenta) and delayed postpartum (10 minutes after delivery of the placenta to less than 4 weeks); analyses were conducted separately for each IUD type and time period. Respondents were asked to indicate whether they considered IUDs to be very safe, safe, unsafe, or very unsafe, or whether they were unsure about safety of use in postpartum women. Responses were grouped into two categories: very safe/safe and unsafe/very unsafe/unsure. Approximately 1 out of 3 of respondents were unsure about safety; therefore, a sensitivity analysis was also conducted while excluding those respondents.

We examined factors associated with considering IUDs to be safe during the postpartum period; these factors included provider characteristics (occupation, clinical focus, gender, days of formal family planning training, years since completion of formal training, and training in IUD insertion in the immediate postpartum and interval time periods), practice characteristics (region, setting, and onsite availability of copper and LNG IUDs), and patient characteristics (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, proportion of non-English speaking patients, and proportion of teen female patients).

For occupation, responses were grouped into physician and nonphysician, which included physician assistant, certified nurse midwife, nurse practitioner, nurse, and other. The setting for primary clinic/practice was categorized as private and other (community health center, university, Planned Parenthood affiliate, health department, health maintenance organization, hospital, family planning clinic, sexually transmitted disease clinic, and other). Analyses were also conducted while excluding those with missing information on postpartum training, and results were generally similar.

Weighted percentages were calculated for provider characteristics of interest. Multivariable logistic regression was used to calculate adjusted odds ratios (aORs) and 95% confidence intervals (95% CIs) for factors that were associated with considering postpartum IUDs very safe/safe (described as “safe” in the results), compared with unsafe/very unsafe/unsure (described as “unsafe” in the results). Models were constructed separately for each IUD type and postpartum period. Multivariable models were adjusted for key factors that were significant in univariable analyses. Office-based physicians and Title X clinic providers were combined for all analyses. SAS 9.3 survey procedures were used to account for the complex sample design.

This project was determined to be public health practice rather than research on human subjects; therefore, the CDC did not require Institutional Review Board review.

Results

Provider characteristics of office-based and Title X providers are shown in Table 1. Of the 1113 office-based physician respondents, 478 did not meet eligibility criteria and were excluded. Of the 1551 Title X clinic provider respondents, 183 were excluded, because they either did not meet eligibility criteria or the clinic had closed. Response rates were calculated based on recommendations from the Council of American Survey Research Organizations, assuming that the proportion of eligible respondents in the unknown subgroup is equivalent to the proportion of eligible respondents in the subgroup with known eligibility or ineligibility, and were as follows: obstetrician–gynecologists, 51.8%; family medicine physicians, 44.9%; adolescent medicine physicians, 68.0%; and Title X clinic providers, 77.5%. The overall response rate was 64.8%.

The final analytic sample included 635 office-based physicians and 1368 Title X clinic healthcare providers. The majority of respondents were physicians, nonobstetrician-gynecologists, and had at least 1 day of formal family planning training. Approximately half of the respondents did not have onsite availability of copper or LNG-IUDs (48% for copper IUD and 46% for LNG-IUD). Approximately one-third of respondents were not trained in postpartum or interval IUD insertion (27% for copper IUD and 32% for LNG-IUD).

A low proportion of providers considered IUDs to be safe during the postpartum period (25% considered immediate insertion and 37% considered delayed insertion to be safe) (Table 2). For both IUDs, a lower percentage of providers who were not obstetrician-gynecologists considered immediate postpartum insertion to be safe as compared with obstetrician-gynecologists, although results were not significant (aOR 0.72, 95% CI 0.42–1.25 for copper IUD; aOR 0.67, 95% CI 0.37–1.20 for LNG-IUD). Results were similar for delayed postpartum insertion.

Providers with <1 day of family planning training had decreased odds of considering immediate IUD insertion safe compared with those with more training (aOR 0.18, 95% CI 0.04–0.84 for copper IUD; aOR 0.17, 95% CI 0.04–0.81 for LNG-IUD). Odds of considering delayed IUD insertion safe were not significantly different between those with <1 day of family planning training and those with more training.

Providers not trained in postpartum or interval copper IUD insertion had decreased odds of considering immediate copper IUD insertion to be safe compared with those with training in either time period (aOR 0.36, 95% CI 0.16–0.79). Results were similar for delayed postpartum copper IUD insertion (aOR 0.34, 95% CI 0.18–0.66). Providers without training in postpartum or interval LNG-IUD insertion were less likely to consider delayed LNG-IUD insertion to be safe (aOR 0.41, 95% CI 0.21–0.77). Training was not statistically significantly associated with perceptions of safety of immediate LNG-IUD insertion.

For the remaining provider characteristics investigated, no other associations were significant in multivariate analysis. A sensitivity analysis was conducted while excluding respondents who were unsure about IUD safety, and results did not substantially change with the exception that there were no longer significant differences by days of formal family planning training for either IUD, although CIs were wide. Results were also similar when analyses were limited to only obstetrician-gynecologists.

Discussion

Our results demonstrated that before the publication of the US MEC, only ~40% of healthcare providers considered insertion of IUDs in the immediate and delayed postpartum period to be safe. These perceptions were lower among certain subpopulations, including nonobstetrician–gynecologists, those with little formal family planning training, and those without formal training in IUD insertion. No differences were found in perceptions related to other factors such as clinical focus and practice setting, which may reflect the fact that the survey was limited to those who provide some family planning.

These data were collected several years ago before the publication of the US MEC, promotion of long-acting reversible contraceptives by professional groups, and initiation of the Affordable Care Act and we acknowledge that these attitudes may not be reflective of more recent attitudes. However, given that changes in provider behaviors and practices often lag behind guidelines, it is important to understand the scope of provider attitudes before the changing landscape, to track changes and assess potential continued barriers.

Our results were similar to those from previous studies that found that 50%–70% of providers perceived insertion in postpartum women to be unsafe.[7,11] A 2006 poll of American College of Obstetricians and Gynecologists fellows found that only 33% considered immediate postpartum insertion to be safe.[7] Another longitudinal mixed-methods study from 2012 of physician and nonphysician providers from two states found that approximately half of providers considered immediate postpartum insertion of IUDs to be safe.[11] This study adds important information about perceptions among those who identify as providers of family planning services from a wide range of geographic regions and practice types.

Other studies have examined provider safety attitudes relative to different populations of female patients, including nulliparous women, adolescents, and patients with histories of sexually transmitted infection. These studies have found similar connections between

provider characteristics, such as time since completion of training and/or having had any formal training in insertion, and perceptions of IUD safety.[10–13]

Another study using data from the same survey as the current analysis examined provider practices for nulliparous women and found that being an office-based family medicine physician, not having formal training in IUD insertion, and no availability of the device were associated with mis-conceptions about appropriate use.[9] An additional physician survey found that those with a longer duration since completion of training were more likely to have misperceptions regarding IUDs overall, including use in immediate postpartum patients.[11]

A strength of this analysis is that data were from a large, nationally representative survey of family planning providers. This study also has several limitations, which should be considered when interpreting results. Although our response rate among office-based physicians was comparable to other physician surveys, the response rate was low compared with that of Title X providers.[14] The survey did not address other factors that could affect provider perceptions, such as insurance coverage or concerns around risk of complications such as expulsion and infection. As survey information was self-reported, assessment of proportion of patients with certain characteristics may not be accurate.

Approximately 50% of respondents did not have onsite availability of IUDs and, therefore, may have had less comfort with provision of these methods; therefore, our results may not mirror provider groups with higher availability of these methods or increased availability due to recent changes in insurance coverage. The survey also did not assess actual provider practices regarding IUD insertion during the postpartum period.

Survey inclusion criteria did not require providing pregnancy-related care; therefore, results may be skewed toward providers who are less aware of evolving guidelines on postpartum care. However, these providers may still encounter women who are newly pregnant or planning pregnancy and may be involved in counseling about postpartum contraception, and, therefore, should still be aware of evidence-based guidelines and pertinent resources to locate such information. In addition, our surveyed population of providers does not fully represent the spectrum of providers who care for pregnant and postpartum women.

Finally, the data analyzed in this study were collected several years ago. However, as the information was collected before the release of the US MEC, these results are important to establish a benchmark by which to evaluate progress and improved provider knowledge after the release of the US guidelines and eventual public policy changes reflecting this new evidence.

Before the release of the US MEC, there were no evidence-based federal guidelines on contraceptive safety. Although the World Health Organization’s (WHO) MEC has been available since the 1990s, the WHO MEC has not been widely disseminated or implemented in the United States. We anticipated that this survey would reveal varied perceptions among family planning providers regarding IUD safety among postpartum women. These varied perceptions, in part, reflect evolution of guidelines from professional organizations in recent years, reflecting increasing evidence and recognition of the safety of IUDs in the postpartum period.[3,4,15,16] In addition, changes in insurance coverage of contraception should impact

availability and affordability of IUDs, which, along with provider and patient knowledge, continue to be barriers to access of IUDs.

Conclusions

These results have important clinical and public health implications for postpartum women desiring effective contraception. Addressing provider attitudes remains a key component in the approach to reducing barriers to IUD use. Although this survey reflects attitudes before the US MEC, evidence existed at that time that supported the safety of immediate postpartum IUD insertion. We would hypothesize that with these new guidelines and reimbursement policies, more providers would view the practice as safe, and this study offers a benchmark by which to measure changes in provider practices.

Given the low proportion of providers who consider IUD use to be safe during the postpartum period, education and training efforts should be focused on reinforcing the knowledge and skills to provide these methods. Interventions to improve provider knowledge should include additional formal training, continuing education opportunities for those remote from training, training in protocols that are specific to postpartum insertion, and training targeting nonobstetrician-gynecologist providers. Parallel efforts should be aimed at those who counsel women during prenatal care and those who deliver and provide immediate postpartum contraception. In addition, efforts to disseminate the US MEC to all provider types should further improve provider awareness and an understanding of the safety of IUDs for postpartum women.

Disclaimer

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

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Table 1.

CHARACTERISTICS OF OFFICE-BASED PHYSICIANS AND TITLE X HEALTHCARE PROVIDERS (*N*= 2003)

Characteristic	n *(%)*[a]
Occupation	
Physician	777 (93.7)
Nonphysician	1193 (6.2)
Clinical focus	
Obstetrics-gynecology	545 (40.8)
Other	1453 (59.2)
Gender	
Male	362 (45.7)
Female	1623 (52.7)
Days of formal family planning training	
<1	76 (3.5)
≥1	1909 (95.2)
Time since completion of medical training (*y*)	
<4	293 (15.4)
5–14	743 (34.9)
15–24	546 (27.4)
>24	409 (22.2)
Trained in copper IUD insertion	
Either postpartum or interval insertion	1193 (73.5)
Neither postpartum nor interval insertion	810 (26.5)
Trained in LNG-IUD insertion	
Either postpartum or interval insertion	1104 (68.1)
Neither postpartum nor interval insertion	899 (31.9)
Region of the United States	
Northeast	357 (15.2)
Midwest	384 (24.4)
South	787 (32.9)
West	475 (27.4)
Setting for primary clinic/practice	
Private	454 (34.2)
Nonprivate	1541 (65.3)
Onsite availability of copper IUD	
Yes	1156 (52.1)
No	847 (47.9)
Onsite availability of LNG-IUD	
Yes	995 (53.9)
No	1008 (46.1)
Proportion of female patients who receive family planning services	
0–24	160 (17.8)

Characteristic	n *(%)*[a]
25–49	341 (27.7)
50–74	494 (27.5)
75+	991 (27.0)
Proportion of female patients with Medicaid or other assistance	
0–24	767 (61.8)
25–49	463 (20.3)
50+	727 (16.4)
Proportion of racial or ethnic minority patients	
0–24	769 (54.9)
25–49	538 (28.7)
50+	672 (15.8)
Proportion of non-English-speaking female patients	
0–24	1493 (86.3)
25–49	270 (7.9)
50+	209 (5.0)
Proportion of teenaged female patients	
0–24	957 (74.2)
25–49	786 (23.5)
50+	231 (1.5)

[a]Unweighted n's and weighted percentages; percentages may not add to 100% due to missing values.

IUD, intrauterine device; LNG, levonorgestrel.

Table 2.

FACTORS ASSOCIATED WITH PROVIDERS CONSIDERING USE OF INTRAUTERINE DEVICES POSTPARTUM TO BE VERY SAFE OR SAFE

	Copper IUD				LNG-IUD			
	<10 minutes postpartum		10 minutes–≤4 weeks postpartum		<10 minutes postpartum		10 minutes–≤4 weeks postpartum	
Characteristic	**% reporting very safe or safe[a]**	**aOR (95% CI)[b,c]**	**% reporting very safe or safe[a]**	**aOR (95% CI)[b,c]**	**% reporting very safe or safe[a]**	**aOR (95% CI)[b,d]**	**% reporting very safe or safe[a]**	**aOR (95% CI)[b,d]**
Total	24.9	—	36.2	—	25.3	—	37.1	—
Clinical focus								
Obstetrician-gynecologist	31.9	1.0	43.6	1.0	32.6	1.0	43.5	1.0
Other (nonobstetrician-gynecologist)	21.2	0.72 (0.42–1.25)	32.8	0.97 (0.59–1.62)	21.4	0.67 (0.37–1.20)	34.2	1.05 (0.63–1.75)
Gender								
Male	23.2	0.70 (0.45–1.09)	33.4	0.66 (0.43–1.01)	25.3	0.94 (0.57–1.55)	35.2	0.77 (0.50–1.20)
Female	27.2	1.0	40.3	1.0	26.2	1.0	40.3	1.0
Days of formal family planning training								
<1	4.2	**0.18 (0.04–0.84)** *f*	18.7	0.63 (0.15–2.58)	4.3	**0.17 (0.04–0.81)**	18.6	0.58 (0.15–2.27)
≥1	26.6	1.0	38.0	1.0	27.0	1.0	38.8	1.0
Time since completion of formal training (*y*)								
<4	38.6	1.0	45.0	1.0	40.4	1.0	49.5	1.0
5–14	17.7	**0.37 (0.19–0.71)**	34.9	0.67 (0.35–1.28)	20.9	**0.42 (0.22–0.79)**	38.3	0.64 (0.35–1.20)
15–24	23.6	0.61 (0.30–1.22)	34.0	0.78 (0.40–1.50)	23.0	0.51 (0.25–1.02)	32.6	0.60 (0.31–1.14)
>24	31.1	0.82 (0.40–1.69)	39.4	0.83 (0.41–1.66)	27.7	0.60 (0.29–1.26)	35.7	0.58 (0.29–1.16)
Setting for primary clinic/practice								
Private	24.6	1.0	39.5	1.0	24.9	1.0	41.5	1.0
Nonprivate	27.3	1.28 (0.76–2.16)	33.2	0.71 (0.43–1.18)	28.1	1.29 (0.76–2.20)	31.5	**0.56 (0.34–0.91)**
Onsite availability of IUD[e]								
Yes	28.9	1.0	39.8	1.0	31.1	1.0	39.9	1.0
No	21.9	1.12 (0.69–1.80)	34.4	1.21 (0.76–1.91)	19.9	0.78 (0.45–1.37)	35.6	1.19 (0.75–1.91)
Trained in IUD insertion[e]								
Either postpartum or interval insertion	30.8	1.0	43.2	1.0	31.1	1.0	43.6	1.0

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Characteristic	Copper IUD				LNG-IUD			
	<10 minutes postpartum		10 minutes–≤4 weeks postpartum		<10 minutes postpartum		10 minutes–≤4 weeks postpartum	
	% reporting very safe or safe[a]	aOR (95% CI)[b,c]	% reporting very safe or safe[a]	aOR (95% CI)[b,c]	% reporting very safe or safe[a]	aOR (95% CI)[b,d]	% reporting very safe or safe[a]	aOR (95% CI)[b,d]
Neither postpartum nor interval insertion	11.0	**0.36 (0.16–0.79)**	20.9	**0.34 (0.18–0.66)**	14.9	0.58 (0.27–1.28)	25.9	**0.41 (0.21–0.77)**

[a] Weighted percents.

[b] Referent category includes respondents who considered immediate postpartum IUD insertion unsafe, very unsafe, or unsure.

[c] Adjusted for clinical focus, gender, days of formal family planning training, times since completion of formal family planning training, setting for primary clinic/practice, onsite availability of copper IUD, and training in copper IUD insertion.

[d] Adjusted for clinical focus, gender, days of formal family planning training, times since completion of formal family planning training, setting for primary clinic/practice, onsite availability of LNG-IUD, and training in LNG-IUD insertion.

[e] Asked separately for copper IUD and LNG-IUD.

[f] Bold indicates statistically significant results.

95% CI, 95% confidence interval; aOR, adjusted odds ratio.