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The Use of ACOG Guidelines: Perceived Contraindications to IUD and Implant Use Among Family Planning Providers

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Abstract *Objectives* The uptake and actual use of the current guidelines from the American College of Obstetrics and Gynecology (ACOG) is unknown. *Methods* Family planning providers across Colorado and Iowa were surveyed as part of statewide initiatives to reduce unintended pregnancy in 2010 and 2012, both before and after the release of the guidelines. These initiatives focused on the promotion of intrauterine devices (IUDs) and implants. These surveys included questions on providers' views regarding the suitability and safety of the copper T IUD, hormonal IUD, and single rod implant for various subgroups of clients. The results are contrasted with guidelines provided in July of 2011 by ACOG. This strategy provides both baseline and follow-up models about the methods promoted in these guidelines. *Results* Findings show that there is some improvement in beliefs that IUDs are suitable and safe for women who are post-partum, post-abortion, have had an ectopic pregnancy, are nulliparous, teenagers, or have a history of STIs. However, these clinicians' views are not entirely in alignment with ACOG recommendations in their beliefs that these methods should not be used immediately post-partum or post-abortion. Notable percentages of these clinicians were hesitant to recommend these effective methods for other groups of patients, approved for use by ACOG. *Conclusions* While the cost of these methods is a barrier to adoption, these data suggest that there are continuing provider barriers to their use as well. The paper concludes with suggestions for further training for family planning providers.

Keywords IUDs · ACOG · Clinicians · Intrauterine devices

Significance

The American College of Obstetricians and Gynecologists (ACOG) provides up to date guidelines for the use of long-acting reversible contraception methods (LARC); however, there is limited information on how these guidelines are used by practitioners. In this paper, we describe the differences in providers' beliefs and practices before and after the release of the 2012 ACOG guidelines and how these might be contributing to the limited use of LARC in the US.

Introduction

The high rates of unplanned pregnancies in the US and the continuing high levels of adolescent births in the nation are both testimony that women and couples are either not yet being offered or are not embracing the most effective forms of contraception available (National Campaign to Prevent Teen and Unplanned Pregnancy 2012). Although intrauterine devices (IUDs) and single-rod contraceptive implants, often referred to as LARC (or long-acting reversible contraception), are growing more popular in the US, they are still only used by less than 10% of women (Finer et al. 2012). Many studies have documented the misperceptions and concerns that keep women from adopting these most effective methods

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(Kane et al. 2009; Venkat et al. 2008). Many others have documented family planning providers' beliefs and attitudes about LARC (Biggs et al. 2014; Harper et al. 2013; Lewis et al. 2013; Luchowski et al. 2014; Postlethwaite et al. 2007; Stanwood et al. 2002; Tyler et al. 2012). However, many of these studies focused on only one type or provider such as Nurse Practitioners or Clinic Directors (Biggs et al. 2014; Harper et al. 2013; Luchowski et al. 2014) or on only one underserved group such as nulliparous women (Tyler et al. 2012). The limited information documenting the impact of guidelines, such as those provided by the American College of Obstetricians and Gynecologists, and how these relate to how providers' beliefs and practices that might play in keeping LARC use rates low show a gap in the literature for studies in this field.

The ACOG Guidelines

Research evidence regarding the overall effectiveness of LARCs, and their utility for a broader array of patient profiles, led to the release of a Practice Bulletin on LARC by the American College of Obstetricians and Gynecologists (ACOG) in 2011 (ACOG 2011). The Bulletin goes well beyond an overall endorsement that "long-acting reversible contraceptive methods have few contraindications, and almost all women are eligible for implants and IUDs" (ACOG 2011, p 3). ACOG also cites specific groups of women to whom ACOG believes this general conclusion applies, including women who have experienced an ectopic pregnancy, nulliparous women, and adolescents. Furthermore, the guidelines note that for women at "high risk of STIs, it is reasonable to screen for STIs and place the IUD on the same day or when the test results are available" (ACOG 2011, p 8). The bulletin also notes specific times when IUD or implant insertion is particularly safe, effective, and advantageous, notably the immediate post-partum period, after an abortion, or after a miscarriage.

To ascertain how well the field follows these current ACOG guidelines, we had an opportunity to compare a group of family planning providers' views regarding the suitability and safety of the copper T IUD, hormonal IUD, and single rod implants. This analysis included looking at various subgroups of potential clients both before and after the release of the guidelines. As part of a broader evaluation of family planning clinics in Colorado and Iowa implementing an Initiative aimed at reducing unintended pregnancy by eliminating traditional barriers to LARC use, we surveyed a group of practitioners in 2010 and 2012. This paper presents preliminary insights regarding the process of adoption of new clinical guidelines, the misalignment with these guidelines, and the implications for training.

The Use of LARC

Between 2002 and 2009, use of LARC methods rose among US women from 2.4 to 8.5% (Finer et al. 2012). However, this still puts US use rates well below other nations, such as China, where 41% of women use LARC, or Norway, where 27% use these methods (United Nations Department of Economic and Social Information and Policy Analysis 2011). The relatively low use in the US exists despite repeated recommendations by ACOG and others that IUDs and implants are an important option for contraception among adult and adolescent women and should be recommended or included in recommendations for contraceptive options (ACOG 2009, 2011, 2012; Deans and Grimes 2009).

Numerous studies have also documented the efficacy and safety of LARC (Bhathena and Guillebaud 2008; Brito et al. 2012; Stoddard et al. 2011). While there were previous fears about the suitability of LARC for adolescents, for immediate post-partum, and post-abortion insertions, ACOG guidelines now note that existing evidence does not substantiate these fears. These methods have improved over time, and these concerns are likely based upon previous types of LARC. Immediate post-partum insertions among adolescents have been shown to be safe and to significantly reduce rapid repeat pregnancies (Tocce et al. 2012). Another advantage of LARC methods is high patient satisfaction, high continuation rates, and low levels of contraceptive failure (Cheng 2000; Doyle et al. 2008; Stoddard et al. 2011; Tocce et al. 2012).

If these methods are safe, highly effective, and well-liked among those who have adopted them, what other factors could be preventing higher client adoption rates? Some factors may be personal and outside of the providers' control such as a patient's desire to not want anything inserted into her body or a patient's desire for some of the positive side-effects of other methods such as reducing acne. However, other factors are within the provider's ability to assist. Patients may have fears, but providers should be able to provide necessary education to reduce these if needed. The high upfront cost of LARC is another contributing factor. The initial cost outlay for an IUD or implant can be hundreds of dollars, a much more expensive option than a single monthly pack of pills (Hubacher 2002; Speidel et al. 2008). While LARC is cost effective over the longer term (Trussell et al. 2009), the initial cash outlay is beyond the reach of many women. This barrier may potentially be reduced by health care reform if the elimination of co-payments for FDA-approved methods becomes part of insurance benefits (Institute of Medicine 2011). Recent research has demonstrated that when LARC is available at little or no cost, adoption rates among women rise substantially (Peipert et al. 2012).

Numerous researchers have also pointed out that without providers actively counseling their patients and suggesting these methods along with other options, and removal of other remaining system barriers interfering with the greater mainstreaming of LARC, the uptake of these methods will remain stunted. A recent study of faculty and residents in the South Carolina Area Health Education Consortium (AHEC) Family Medicine Residency Program found that knowledge about IUD use for nulliparous women and adolescents was limited (Diaz et al. 2001). While 78% of the providers surveyed prescribed IUDs and 42% inserted them, fewer than 10% had prescribed or inserted more than ten IUDs in a single year.

Research has suggested that gynecologists may be uncomfortable with providing IUDs, either because of inadequate training, low self-efficacy in their ability to perform this procedure, or fear of litigation (Harper et al. 2013; Hubacher 2002; Stanwood et al. 2002). Research has also suggested that some providers may not suggest IUDs to patients who are not in monogamous relationships (Stanwood et al. 2002). Findings continue to suggest that clinicians are inappropriately using the IUD as the "method of last resort" when women have medical contraindications to other contraceptive methods. Rather than supporting the methods with the highest efficacy or including them in the options, gynecologists may be avoiding them entirely.

In a study of providers serving low-income clients in California's publicly funded Family PACT Program, only 61% reported that they had IUDs available at their practice. Also, only 60% indicated that they felt "very comfortable" inserting the copper T IUD and a scant 40% said that they felt this level of comfort inserting the hormonal IUD (Harper et al. 2008).

The Initiatives

From 2006 to 2012, statewide initiatives in Colorado and Iowa gave funding to all Title X providers in each state and other non-Title X family planning providers. The non-Title X family planning providers were all leaders in family planning provision in each state. Forty-seven family planning service agencies (32 in Colorado and 15 in Iowa) received funding to expand their scope of services, improve their infrastructure and market their services. The goal in every case was to increase the use of LARC and thereby reduce unintended pregnancy. Of these agencies, 42 were Title X, and 5 were non-Title X.

As part of a mixed-methods evaluation of these initiatives, data were collected in both 2010 and 2012 from clinicians and clinic directors at initiative-funded agencies to assess their experiences providing LARC services. This evaluation provides a unique opportunity to assess clinicians' beliefs and practices regarding LARC both before and after ACOG's guidelines were accessible in 2011.

While most of the practitioners in our sample are not physicians, the ACOG guidelines are relevant to all of those who dispense LARC. Such guidelines are intended to reflect the best research available on appropriate prescription of these methods and thus, the exemplars of best practices in this field. The training received by nurse practitioners, physicians' assistants, and nurse midwives about the suitability and safety of LARC methods for various populations should reflect what has been learned and summarized in such guidelines—regardless of whether the provider is in fact, a physician.

Methods

As part of the evaluation, in the summers of 2010 and 2012, surveys were requested from in each of the 47 initiative-funded agencies, or the maximum number available for sites with fewer than five clinicians. Clinic Directors chose these clinicians directly. As there was no record of whom the Clinic Directors approached or a count of how many individuals they approached, it is not possible to produce a response rate. This strategy was used in large part to help protect the anonymity of the clinicians who were completing the surveys. The survey was completed online and was anonymous. Liberty Institutional Review Board and the University of California, Committee on Human Research approved all research protocols and instruments. These surveys focused on practices relative to each LARC method and views of the client groups for whom these methods were suitable and safe. This information included what methods clients ask for and which these providers routinely use. Participants were asked for each of five patient groups and 15 medical history or current status factors if they believed each LARC method was suitable or safe with a simple yes or no dichotomous variable. Demographic information on the providers included age, race, ethnicity, and gender.

In 2010, data collection consisted of 134 surveys while in 2012 97 surveys were collected. All surveys were anonymous. Therefore, it is unknown if the same individuals completed these surveys over time. While this is a small sample size, we believe this information that can be compared to provide valuable information on the change in use of ACOG guidelines within the field. While it cannot be said to be definitive of the entire field, it does suggest patterns of change in attitudes during this time.

As surveys regarding job roles, responsibilities, attitudes, and beliefs may feel highly pressured and produce anxiety for some providers, many measures were taken to

protect anonymity. With a sample size of only up to five clinicians per site, collecting both demographic information and asking the clinicians to identify their clinics would reduce or perhaps eradicate this anonymity. For instance, if there was only one multi-racial female physician in the clinic, it would be fairly obvious what her answers to the survey were, even if only to the researcher. Therefore, the clinicians were not asked to provide the name of their clinics. While normally when analyzing such data a clustered sampling scheme would be recommended, here that was not possible. No clustering was used in this analysis to protect the anonymity of those participating.

The evaluation team analyzed all demographic data for baseline equivalencies through the use of chi-squares. We report all frequencies and descriptive elements in Table 1. All data regarding the suitability and safety of these methods were also run first using simple frequencies to account for percentages. Then chi-squares were also run to test for significant findings, each of which is marked in the data reported.

Results

The evaluation team collected data from providers who were trained and able to insert LARC. The 2010 and 2012 survey samples were very similar, with the vast majority (over 95%) female in both samples. A majority of practitioners were over the age of 45. Nine out of ten in each group were white. The 2012 sample included more physicians (22%) than did the 2010 sample (13%), while in 2010, responders were more likely to be nurse practitioners (65%) than in 2012 (57%). None of these differences were statistically significant.

Among the clinicians surveyed in Colorado and Iowa, Table 2 shows the percentage of providers eligible to insert LARC who believed that such a practice was suitable and safe for various groups of women. Between 2010 and 2012, the percentages believing LARC to be suitable and safe for each IUD method for post-partum insertion increased with hormonal IUD insertion increasing significantly from 37 to 51% and copper T IUD insertion increasing from 41 to 51%. No significant changes existed in the percentage of clinicians agreeing that immediate post-abortion insertion is suitable and safe. A greater proportion of providers believed post-abortion insertion of IUDs to be suitable and safe in 2012 than in 2010 (72 vs. 63% for hormonal IUD and 70 vs. 63% for copper T IUD). However, the percentage believing a post-abortion single rod implant was suitable and safe was lower in the 2012 sample (84 vs. 91%). A similar, although not significant, pattern can be seen relative to women with a history of ectopic pregnancy. Although the majority of providers do not hesitate to prescribe a single rod implant to women with such a history, some still judge IUDs as not suitable or safe for women with previous ectopic pregnancies. This view was less common in 2012 than in 2010; however, 15% of providers would not prescribe a hormonal IUD or copper T IUD for these women.

Table 1 Demographic characteristics of Iowa and Colorado family planning providers, 2010 and 2012

Gender	2010 (N = 133) (%)	2012 (N = 96) (%)
Female	96	97
Male	4	3
Age	2010 (N = 132) (%)	2012 (N = 97) (%)
25–34	14	14
35–44	23	29
45–54	35	23
55+	29	34
Race/ethnicity	2010 (N = 134) (%)	2012 (N = 97) (%)
White	90	92
Hispanic or Latino	4	4
African American	1	0
Asian, Filipino, or Pacific islander	2	2
Multi-racial or other	1	2
Title	2010 (N = 134) (%)	2012 (N = 97) (%)
Physician	13	22
Physician's assistant (PA)	9	10
Nurse practitioner (NP)	65	57
Certified nurse midwife (CNM)	10	9
Other	3	2

Table 2 Percentage of providers eligible to insert LARC who believed that such a practice was suitable and safe

Group	Hormonal IUD		Copper T IUD		Single rod implant	
	N	%	N	%	N	%
Immediate post-partum (prior to discharge)						
2010	119	37	122	41	122	72
2012	87	51*	85	51	83	71
Immediate post-abortion (prior to leaving the clinic)						
2010	121	63	120	63	120	91
2012	85	72	83	70	83	84
Women with a history of ectopic pregnancy						
2010	127	79	127	76	128	96
2012	90	86	89	85	90	96
Nulliparous women						
2010	129	88	129	90	131	99
2012	93	97*	92	97*	93	100
Teenagers (age 15–19)						
2010	130	82	131	81	130	98
2012	88	92*	86	87	90	100
Women with a history of STIs in the past 2 years						
2010	128	85	128	86	129	98
2012	90	96*	87	94*	91	99

*Difference between 2010 and 2012 is significant at $p < .05$

While a very high proportion of providers judged LARC to be suitable and safe for nulliparous women and teenagers in 2010, attitudes improved further by 2012. The proportion of clinicians reporting that the use of the hormonal IUD was suitable and safe for nulliparous women increased significantly from 88 to 97% as did the approval of the copper T IUD from 90 to 97%. The proportion of clinicians believing the use of the hormonal IUD to be suitable and safe for teenagers also increased significantly from 82 to 92%. No significant change existed in the belief that the use of single rod implants was suitable and safe for either of these groups.

A higher proportion of providers in 2012 than in 2010 agreed that LARC was suitable and safe for women with a history of STIs with the belief that the use of hormonal IUDs for these women was suitable and safe significantly increased from 85% in 2010 to 96% in 2012. The belief that the use of copper T IUDs was suitable and safe also increased significantly from 86 to 94%. The belief that a single rod implant was suitable and safe did not increase significantly.

The tables above include, as noted, only those providers who are legally eligible to insert these methods. However, among the few RNs who responded to our survey (N = 25 in 2010; N = 16 in 2012), views were routinely more conservative. For example, while 51% of the insertion-eligible providers thought the immediate post-partum insertion of the Hormonal IUD was suitable and safe in 2012, only one nurse shared this belief. In 2012, while 92% of the eligible providers thought the Hormonal IUD was suitable and safe for teens, only eleven of the 16 nurses (73%) reported this. If nurses are responsible for providing contraceptive counseling to patients before they meet with the clinician eligible to insert LARC methods, then it is unlikely, at least among these providers, that providers are suggesting LARC methods to some subgroups.

Discussion

Overall, this study shows some improvement in beliefs that IUDs are suitable and safe for women who are post-partum, post-abortion, have a history of ectopic pregnancy, are nulliparous, teenagers, or have a history of STIs. In fact, the 2012 sample showed greater belief in the suitability and safety of LARC use for all subgroups. While the belief in the suitability and safety of the single rod implant for any group of patients did not change significantly, high approval rates for this method already existed in 2010.

While the results demonstrate some clear improvements in provider attitudes towards the insertion of LARC methods in a variety of patients, many are still behind the current ACOG guidelines. These guidelines state that LARC can be implanted or inserted during the immediate post-partum period or after an abortion or miscarriage. While the belief in the suitability and safety of hormonal IUDs for post-partum women has increased significantly, still almost one-half of providers do not

share this belief in the use of hormonal IUDs or copper T IUDs for these women. Also, three out of ten providers do not believe single rod implants to be suitable and safe for immediate post-partum insertion. Over one-quarter of providers in 2012 did not believe that the IUD was suitable and safe for immediate post-abortion insertion, while 16% did not believe this for single rod implants. Thus, despite the availability of these guidelines, many of these recommendations are either unknown to or not followed by the family planning providers in these samples.

The ACOG guidelines further state that LARC methods have few contraindications and by nearly all women, including women with a history of ectopic pregnancies, nulliparous women, teenagers, and those with a history of STIs. This study found that despite additional training on these methods, there is still further room for improvement in almost all cases.

While we have only a small sample, these data also suggest that nurses are less likely to think that these methods are suitable and safe than other providers. As these nurses may be the ones who provide contraceptive education and counseling, this may hinder patient knowledge or opportunity to be offered a LARC method.

These results point to the need for continuing training of family planning providers. Our samples only include providers working in family planning clinics; thus, such training may also be needed by family practices or other private practitioners who provide many other kinds of services. One national probability sample of family physicians found that only half were trained to offer intrauterine contraception and were unlikely to have knowledge of which women would be good candidates for these methods (Harper et al. 2012). Another study suggested that research is needed into why providers do not comply with evidence-based clinical guidelines—even when they know such guidelines exist (Speidel et al. 2008).

Provider attitudes and knowledge are not the only barriers to more women receiving LARC methods. Other issues include cost, the education of women about these methods, and the actual availability of LARC in clinics.

These findings suggest that despite the existence of effective methods of contraception, in a nation where almost half of our pregnancies are unintended (Guttmacher Institute 2012), we are unlikely to see great reductions in such pregnancies until we broaden our view of the barriers to LARC adoption. Patients need education about these methods and may have a variety of incorrect beliefs about them. However, providers also have an important role to play; they will need to stay up to date about LARC evidence and guidelines and become more willing to offer these methods to their patients along with those methods currently being offered.

Limitations

One limitation of this study is that the agency directors chose the samples of clinicians. These directors were asked to choose those who were frontline providers of contraceptive services, but they may have chosen survey participants using other unknown criteria as well. All surveys were anonymous, so we do not know how many of those who participated in 2010 were also part of our 2012 sample. These data provide a sample from only two states—Colorado and Iowa. While they may suggest possible national results, they do not, in fact, provide them. Finally, as the sample is small, we lack the power to detect any but the largest differences as significant. Despite these limitations, we are hopeful that this recent information from family planning providers will continue to highlight the need for more training and dissemination of best practice information about LARC among front-line providers of contraceptive services.

These results may not be solely a result of the ACOG guidelines. Some of these beliefs and practices may have simply changed over time. The initiative may have impacted these results as it focused on LARC adoption.

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