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Counseling adolescents about the intrauterine contraceptive device: A comparison of primary care Pediatricians with Family Physicians and Obstetrician-Gynecologists in the Bronx, NY

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Abstract

Background—The intrauterine device (IUD) is a highly effective contraceptive, yet not all primary care providers (PCPs) counsel adolescents about IUDs. We sought to describe PCPs' frequency of counseling adolescents about IUDs and identify whether different factors are associated with frequent counseling by Pediatricians compared with Family Physicians and Gynecologists.

Methods—Surveyed PCPs affiliated with a Bronx, NY academic institution. Main outcome: frequent counseling of female adolescents about IUDs.

Results—Frequent counseling was lower in Pediatricians compared with Family Physicians and Gynecologists (35.8% and 81.6%, p<.001). Among all PCP types frequent counseling was associated with feeling more competent counseling and managing expected IUD side effects (p=<.001). Other significant variables included inserting IUDs themselves (p <.001, Family Physicians and Gynecologists) or having access to an inserter in their office (p=.04, Pediatricians).

Conclusions—Correlates of frequent IUD counseling differed according to PCP specialty. Our results suggest that interventions to increase IUD counseling should focus on improving PCPs' competency around counseling and side effect management as well as increasing access to IUD inserters.

Keywords

intrauterine device; intrauterine device, copper; intrauterine device, medicated; adolescent, female; primary health care; physicians, primary care; community health service, counseling

Introduction

Despite a decline in the unintended pregnancy rates among U.S. adolescents, ¹ the U.S. rate remains significantly higher than that in Canada and European countries. ^{2,3} Use of an intrauterine contraceptive device (IUD) is associated with marked reductions in unintended pregnancy among adolescents. ^{4,5} Professional medical guidelines support IUDs as a first line contraceptive for adolescents. ^{6–9} Yet only 4.5% of contracepting U.S. adolescents have an IUD. ¹⁰

Myriad factors, including clinician factors, contribute to U.S. adolescents' infrequent use of IUDs. U.S. female adolescents are cared for by a mix of primary care provider (PCP) types. Younger adolescents are more likely to see a Pediatrician, while adolescents 17–20 years old are more likely to see an Obstetrician-Gynecologist (ObGyn). The proportion of outpatient visits by females 13–20 years old with Family Physicians (FPs) remains fairly constant at approximately 35–40% throughout adolescence. ¹¹ Though about half of all pediatricians provide some reproductive health care, ¹² studies have described gaps in Pediatricians' general contraception knowledge and their interest in additional pregnancy prevention training. ^{13,14}

PCPs attitudes and practices towards IUD counseling for adolescents remains underexplored. ¹⁵ In general, Pediatricians, FPs and ObGyns often use unduly restrictive criteria when considering IUD eligibility. ^{16–22} Just three published studies concerning IUDs have included generalist Pediatricians. ^{16–18} We found no published study explicitly examining frequency of and factors associated with PCPs' counseling adolescents about IUDs.

In order to address these gaps in the literature we surveyed Bronx Pediatricians, FPs and ObGyns, exploring factors associated with their counseling adolescents about IUDs. The Bronx is the New York State County with the highest adolescent pregnancy rate.²³ We designed our quantitative survey based on our prior qualitative research which suggested that PCPs' training, their attitudes about IUDs, and access to a provider in the clinic who inserts IUDs may be associated with increased likelihood of counseling adolescents about IUDs.^{16,24} We anticipated that, due to training and scope of practice issues, different factors would be associated with Pediatricians' compared to FPs' and ObGyns' IUD counseling practices. We aimed to identify those factors. Our overall goal in conducting this study was to inform the development of interventions to increase the proportion of PCPs who counsel adolescents about IUDs.

Methods

Participants and Recruitment

We invited PCPs affiliated with an academic medical center in the Bronx, NY to complete an anonymous on-line survey (www.surveymonkey.com). Clinicians from the following departments were sent a recruitment email containing a link to the survey: Pediatrics, Family and Social Medicine, and Obstetrics and Gynecology and Women's Health. Eligibility criteria included: works at minimum 2 outpatient sessions/week, clinical panel includes female adolescents, and discussed contraception with female adolescent patients in the prior 12 months. Trainees and subspecialists were excluded. Non-responders were contacted up to three times.

Survey Design

Our investigator developed survey was based on results from our qualitative research¹⁶ with input from experts in the field. Prior to implementation we piloted the survey and revised it accordingly. Survey items were organized around Capability, Opportunity, Motivation (COM) implementation science theoretical framework²⁵ used in our prior work.¹⁶ The COM framework was developed in order to systematically improve the design of behavior change interventions.

Survey Variables

Our primary outcome—frequency of counseling female adolescents about IUDs—was assessed with the question: "In a typical office visit conversation with a female adolescent about contraception how frequently do you discuss IUDs?" Responses on a 5 point Likert scale ranged from "very infrequently" to "very frequently". Since we aimed to examine associations between those who do and do not frequently counsel, for our analysis responses were dichotomized into "frequently" (responses "very frequently" and "somewhat frequently") and "not frequently" (all other responses).

The survey included questions about demographics, training and clinical practice. We assessed IUD insertion experience during training, in the prior 12 months, and for patients 20 years or younger. Those who reported inserting an IUD in the past 12 months were asked if the clinical site stocks IUDs. Non-inserters were asked whether anyone at their clinic or office inserts IUDs.

To measure IUD counseling skill we asked clinicians to rate their competency on a 5 point Likert scale in the following areas: (1) counseling, (2) answering patient questions and (3) managing side effects. We combined responses from these separate questions into a single competency scale (Cronbachs alpha = .95).

We assessed clinician attitudes and beliefs about how use of prescription contraception (i.e. oral contraception or IUD) might affect condom use or risk of a sexually transmitted infection (STI) as well as their perceptions of STIs and unintended pregnancy rates among adolescents in their practice.

Classification of Clinicians

Given our specific interest in learning about Pediatricians' counseling practices, and the a priori likelihood that FPs and ObGyns as compared to Pediatricians would identify different factors affecting their counseling, we combined the latter 2 groups for analysis. If we had more ObGyn respondents we would have conducted our analysis with three separate groups. In order to assess the FP-ObGyn grouping we conducted $\chi 2$ tests on all salient variables. We found that while ObGyns had more IUD insertion experience and higher competency score, there was no statistically significant difference in responses to our primary outcome measure.

Analysis

We examined differences *between* Pediatricians and FP-ObGyns on all our variables. Then we conducted two separate analyses stratified by Pediatricians or FP-ObGyn grouping in order to examine *within group* factors associated with frequently counseling adolescents about IUDs. We used $\chi 2$ or Fisher's exact test and ANOVA as appropriate to assess bivariate associations. All statistical tests were 2-tailed using alpha=.05 and were performed with SPSS (PASW Statistics Version 20.0.0 2011, Chicago, IL: IBM Corporation) software.

This study was approved by the institutional review board of the Albert Einstein College of Medicine.

Results

We sent recruitment email(s) to 470 clinicians, of whom 203 responded (43.2% response rate). One hundred and fifty-one were eligible. The most frequent reasons for ineligibility were insufficient number of clinical sessions or not discussing contraception with adolescents (Figure 1).

Comparison of Pediatricians with FP-ObGyns (Table 1)

In terms of their demographics and clinical practice, Pediatricians as compared to FP-ObGyns, work more clinical sessions, have a larger proportion of office visits with female adolescents and were less likely to initiate prescription contraception in the past year.

As compared with Pediatricians, our primary outcome – frequent counseling of adolescents about IUDs during a contraception-related office visit – was more than twice as common among the FP-ObGyn group (35.8% and 82.6% respectively).

Clinician groups differed on all knowledge, skill, and practice environment factors, with the exception of "access to an inserter in clinic". Pediatricians as compared with FP-ObGyns were significantly less aware of professional guidelines about IUDs and adolescents (32% compared with 60%). In the past year, fewer Pediatricians had *ever* discussed IUDs with an adolescent (70% with 89%), no Pediatrician had inserted an IUD, whereas 65.3% of FP-ObGyns inserted an IUD for any patient and 39.1% had done so for an adolescent. Pediatricians scored lower on the overall counseling competency scale, as well as on each of its component measures (Figure 2).

Within group factors associated with "frequently" counseling about IUDs, by provider group (Table 2)

Among Pediatricians, factors associated with frequent IUD counseling included having: access to an IUD inserter (p=.04), a higher IUD counseling competency scale score (p<.001) and a belief that adolescents' use of prescription contraception does *not* lead to decreased condom use (p=.05).

Among FP-ObGyns, factors significantly associated with our counseling outcome included: awareness of professional guidelines (p=.005), currently inserting IUDs (p<.001), a higher competency scale score (p<.001), belief that adolescents' use of prescription contraception does *not* lead to decreased condom use (p=.03), belief that adolescents' use of an IUD as compared to oral contraceptive pills does not decreases condom use (p=<.001) and strong disagreement that prescribing contraception for adolescents increases STI risk (p=.003).

Discussion

Primary care providers (PCPs) often provide reproductive health services including contraception counseling and prescription for adolescents. Yet little is known about the frequency and factors associated with such practices for IUDs – a safe, highly effective contraceptive shown to decrease adolescent pregnancy. Ours is one of the first studies to examine this issue. In our survey of primary care Pediatricians, FPs and ObGyns, we found differences by PCP grouping both in the frequency with which IUDs are discussed and with factors associated with frequent counseling. Overall, we found that our Pediatrician respondents worked more clinical sessions and reported a larger proportion of visits with female adolescents, yet they counseled less frequently, and felt less competent with counseling. Among our FP-ObGyns respondents, counseling competency as well as attitudes and beliefs about STIs and condom use were associated with IUD counseling frequency. For both groups, inserting IUDs or having access to an IUD inserter is also essential. Our results suggest that in order to increase IUD counseling for adolescents in primary care, we should consider interventions which strengthen PCPs' competency and address systems issues to improve access to inserters.

Pediatricians' less frequent and lower perceived competence in counseling compared to FP-ObGyns aligns with the literature. Other than our previous qualitative work, ¹⁶ the only published IUD study we found comparing these PCP types involved adolescent-medicine focused PCPs and focused on IUD provision, not counseling. Residency training in FP or ObGyn (rather than Pediatrics or Internal Medicine) was the strongest predictor of providing IUDs. ²⁶ Massachusetts Pediatricians reported that lack of training and limited experience were barriers to their IUD counseling. ¹⁷ Taken together, it appears that interventions aimed at specifically increasing Pediatricians' competency in counseling about the IUD and managing expected side effects appears to be "low hanging fruit". These interventions may occur as an integrated part of clinical training as well as through point-of-care support tools, continuing medical education and connections with colleagues. Consistent with our findings, others have found that counseling frequency is increased by being an IUD inserter oneself ²⁰ or having in-clinic access to one. ²⁷ Thus, establishing systems to ensure availability of IUD

inserters at all primary care sites including Pediatrician staffed sites and/or establishing a strong referral network also appears likely to be key to increasing access.

Contrary to what we anticipated in regards to training, in our sample inserting an IUD during training is not associated with frequently counseling. Possible reasons for this include lack of statistical power and/or insufficient sensitivity in question phrasing. Future studies might explore whether there is a "threshold" number of insertions that is associated with frequent counseling post-training and/or post-training insertion.

Our exploratory study has a number of limitations. This convenience sample from one institution is not representative of the U.S. PCP population. Our modest sample size limits our power, does not allow us to assess ObGyns separately from FPs and it precludes multivariable analyses. Additionally our response rate, while not unusually low for a clinician survey, likely results in some selection bias.

Notwithstanding these limitations, this study of PCPs in one high-risk urban area provides new insights into why some PCPs are more likely than others to counsel adolescents about IUDs. We suggest that in order to increase counseling competency for all PCP groups, training in full-scope contraception counseling including IUD counseling (separate from procedural training in IUD insertion) should occur during residency training. Recent guidelines supporting adolescents' use of IUDs^{6,7} including the 2014 American Academy of Pediatrics' Policy Statement on Contraception for Adolescents⁹ which encourages discussion of the most effective contraceptives such as IUDs as a first line option may begin to change training. For PCPs post-training, disseminating tools such as the CDC's Medical Eligibility Criteria for Contraception Use⁸ and Selected Practice Recommendations for Contraceptive Use²⁸ as well as improved access to colleagues knowledgeable in IUD management may increase competency. It also appears important for all PCP types to insert IUDs themselves or have access to an inserter, either on-site or through an established, reliable referral system. Changing erroneous attitudes and belief will be more challenging. Our finding that correlates of frequent counseling vary by PCP type, suggests that optimal interventions designed to increase counseling would need to be tailored to meet the respective specific and distinct needs of Pediatricians and FPs and ObGyns. If successful, these interventions could increase access to IUDs for adolescents in primary care practices.

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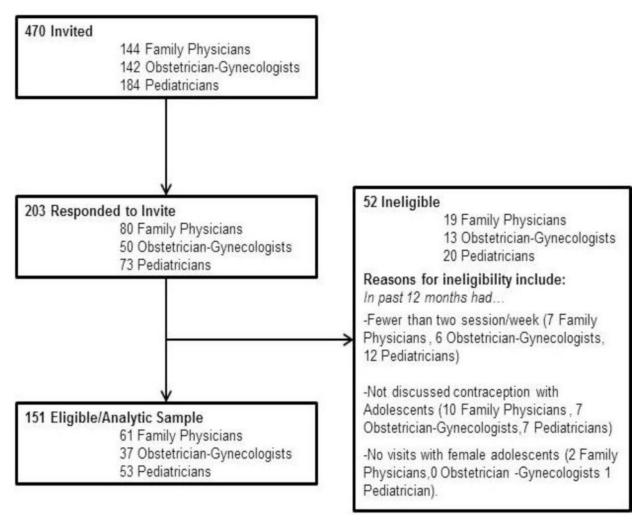


Figure 1. Respondent Flow Chart

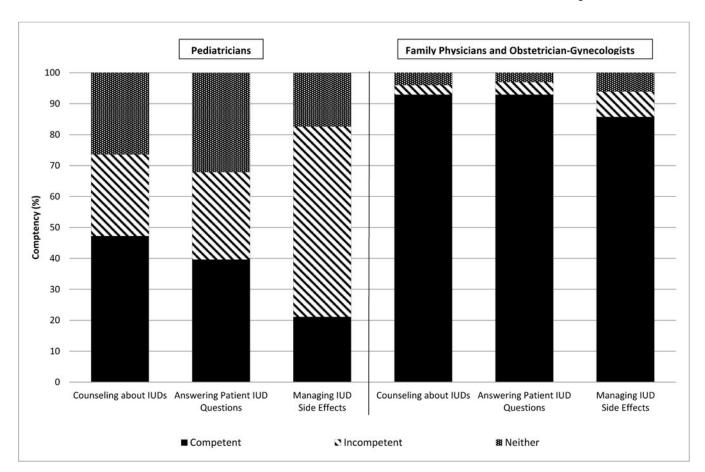


Figure 2.

Perceived Competence to Provide IUD Counseling and Management among Pediatricians and Family Physicians and Obstetrician-Gynecologists*

* Providers self-reported their perceived competence in each area. Responses initially

collected on 5-point Likert scale of very competent to very incompetent.

Table 1

Comparison of Pediatricians with Family Physicians and Obstetrician-Gynecologists Demographic Characteristics, Clinical Practice, Skills, Attitudes and Beliefs

	Pediatricians	Family Physicians and Obstetrician-Gynecologists*	
Total, n (%)	53(32.9) ^a	98(60.9) ^a	P Value
Frequency of IUD Counseling			
Counsels adolescents about IUDs:			
Frequently	19(35.8)	80(81.6)	<.001
Not Frequently	34(64.2)	17(17.3)	
Demographics and Clinical Practice			
Female	38(79.2)	67(69.1)	.20
Clinical training:			
MD/DO	52(98.1)	88(89.8)	0.0
NP/PA	1(1.9)	10(10.2)	.06
Years since training completed: b (Mean, SD)	14.9±10.2	15.8±10.4	.67
Currently works with trainees	28(52.8)	74(75.5)	.004
Half days of outpatient care: $^{\mathcal{C}}$			
2–4	15(28.3)	44(44.9)	
5–7	15(34.0)	35(35.7)	.03
8+	20(37.7)	19(19.4)	
Proportion office visits with female adolescents: \boldsymbol{d}			
1–10%	18(34.0)	57(58.2)	005
>10%	35(66.0)	41(41.8)	.005
In the past 12 months has initiated contraception for any patient	44(83.0)	94(95.9)	.007
Knowledge, Skills, Practice Environment			
Aware of professional guidelines about IUDs & adolescents	17(32.1)	59(60.2)	.001
Inserted IUD in training	1(1.9)	73(76.8)	<.001
In the past 12 months clinician has			
Discussed IUD with patient 20 years or younger	37(69.8)	87(88.8)	.004
Inserted IUD for any patient	0(0)	64(65.3)	<.001 ^e
Inserted IUD with patient 20 years or younger	0(0)	34(39.1)	<.001 ^e
For inserters, clinical site stocks $\!f$			
Copper containing IUD	n/a	46(71.9)	n/a
Levonorgestrel IUD	n/a	38(59.4)	n/a
Among those who have not inserted, has an inserter in clinic g	38(71.7)	27(77.1)	.26 ^e
${\bf IUD\ counseling\ competency\ scale}^{h}\ ({\it Mean,SD})$	2.9±1.1	4.6±.7	<.001
Attitudes and Beliefs			

Family Physicians and Pediatricians Obstetrician-Gynecologists* Total, n (%) $53(32.9)^a$ $98(60.9)^{a}$ P Value Agreed with the following statements as they pertain to adolescents... As compared to oral contraception, IUD use decreases condom use 10(19.6) 21(21.6) .78 Use of prescription contraception decreases condom use 14(26.4) 30(30.9) .56 Adolescents in my practice frequently have STIs .29 32(65.3) 67(72.0) Adolescents in my practice frequently have unintended pregnancies 28(56.0) 69(73.4) .02 Strongly disagreed with the following statement... Prescribing contraception for adolescents results in increased STI risk 35(66.0) 64(65.3) .93

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^{*} Family physician = 61; Obstetrician-Gynecologist = 37

^aTotals may vary due to missing data

 $^{^{}b}$ Refers to how many years ago clinical training was completed

^cRefers to how many half days of outpatient care clinicians provide weekly

dRefers to proportion of outpatient office visits with female adolescents

^eFisher's exact test (2-tailed)

fAsked only of those 64 providers who insert IUDs

 $[^]g$ Asked of all Pediatricians and only of those 35 FP-ObGyns who have not inserted an IUD in the past 12 months

h₃ item Competency Scale based on the responses to the following three separate questions: Degree to which you feel competent (1) counseling about IUDs, (2) answering patient questions about IUD, and (3) managing expected IUD side effects.

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Table 2

Factors associated with Bronx primary care providers reporting that they frequently counsel female adolescents about IUDs during a typical office visit conversation about contraception^a

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		Pediatricians N=53		Family Physicia	Family Physicians and Obstetrician-Gynecologists N=98	Gynecologist
n(%)	Frequently 19(35.8)	Not Frequently 34(64.2)	P Value	Frequently 80(81.6)	Not Frequently 17(17.3)	P Value
Knowledge, Skills, Practice Environment						
Aware of professional guidelines concerning adolescents' use of IUDs Inserted an IUD	7(36.8)	10(29.4)	.58	53(66.30)	5(29.4)	.005
During training	0(0)	1(2.9)	966°<	61(76.2)	11(64.7)	.52 <i>b</i>
In the past year	0(0)	0(0)	>.99	59(73.7)	4(23.5)	<.001
Among non-inserters, has an inserter in clinic $^{\mathcal{C}}$	9(47.4)	$5(14.7)^b$.04	4(19.0)	3(23.1)	.65
${f IUD}$ counseling competency scale $^d({ m Mean,SD})$	4.0±.70	2.4±.87	<.001	4.7±.57	$3.8 \pm .98$	<.001
Attitudes and Beliefs						
Agreed with the following statements as they pertain to adolescents						
As compared to use of oral contraception, IUD use decreases condoms use	2(11.1)	8(24.2)	.46 <i>b</i>	10(12.7)	10(58.8)	$<.001^{b}$
Use of prescription contraception decreases condom use	2(10.5)	12(35.3)	.05	21(26.6)	9(52.9)	.03
Adolescents in my practice frequently have STIs	15(83.3)	17(54.8)	q60.	56(72.7)	10(66.7)	481.
Adolescents in my practice frequently have unintended pregnancies	14(73.7)	14(45.2)	481 .	58(74.4)	10(66.7)	⁴ 27.
Strongly disagreed with the following statement						
Prescribing contraception for adolescents results in increased STI risk	15(78.9)	20(58.8)	.14	58(72.5)	6(35.3)	.003

aTotals may vary due to missing data

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 $^{^{}b}$ Fischer's Exact Test (2-Sided)

question was asked only of those respondents who had not inserted an IUD in the past 12 months. This includes all Pediatricians, and 34 Family Physicians and Obstetrician-Gynecologists (21 who frequently discuss, and 13 who do not frequently discuss IUDs)

d item Competency Scale based on the responses to the following three separate questions: Degree to which you feel competent (1) counseling about IUDs, (2) answering pt questions about IUD, and (3) managing expected IUD side effects.