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Attitudes and beliefs about the intrauterine device among teenagers and young women★

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Abstract

Background—Little is known about attitudes and beliefs among teenagers and young women about the intrauterine device (IUD).

Study Design—We surveyed 252 women, ages 14–27 years, presenting for appointments at an urban family planning clinic about demographics, sexual and birth control history, and opinions about the IUD.

Results—Fifty-five percent had not heard of the IUD. Participants who were parous were 4.4 times more likely to be interested in the IUD than nulliparous participants. Independent of parity, participants who had heard of the IUD from a health care provider were 2.7 times more likely to be interested in using the method. The study population was at high risk for sexually transmitted infections (STIs); however, 82% of participants predicted that they would increase or experience no change in their condom use with an IUD in place.

Conclusions—Health care providers should be encouraged to talk to teenagers and young women who are at high risk for unintended pregnancy, both parous and nulliparous, about using the IUD.

Keywords

Adolescents; Young women; Contraception; Intrauterine device; Attitudes

1. Introduction

A recent report by the Centers for Disease Control showed the birth rate among teenagers in the United States rose between 2005 and 2007, interrupting a 14-year decline [1]. When compared to other developed countries, the teenage pregnancy rate in the United States (83.6 pregnancies per 1000) is almost twice that of Great Britain (46.7) and Canada (45.7), and much higher than that of Sweden (25.0) and France (20.2) [2]. Since 82% of teen pregnancies and 60% of pregnancies among women in their early 20s are unintended, determining strategies to improve consistent use of birth control by teenagers and young women is of public health importance [3].

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Adolescents have higher birth control continuation rates and lower unintended pregnancy rates with methods that do not require daily adherence or decisions at the time of intercourse [4]. One method that requires neither is the intrauterine device (IUD). According to the World Health Organization (WHO) Medical Eligibility Criteria, advantages generally outweigh theoretical or proven risks (Category 2) for women from menarche to age 20 years for initiation and continuation of both the copper and levonorgestrel-releasing IUDs [5]. A recent committee opinion by the American College of Obstetricians and Gynecologists (ACOG) encourages providers to consider the IUD as a first-line choice of contraception for both nulliparous and parous adolescents [6]. Many practitioners, however, do not offer the IUD to their younger patients; a study by Harper et al. [7] found that many physicians, nurse practitioners and physician assistants who provide family planning services do not provide counseling or offer their patients IUDs, and fewer than half (46%) of clinicians considered nulliparous women candidates for IUDs.

Consistent with these findings, use of IUDs among teenagers and women in their early 20s is low. The National Survey of Family Growth data from 2002 showed that only 0.1% of women in the United States ages 15–19 years and 1.1% of women ages 20–24 years were current IUD users [8]. Information on the acceptability of the IUD in teenagers and young women is limited. A study by Stanwood and Bradley [9] found that only half of pregnant women ages 14–25 years presenting for prenatal care or abortion had heard of the IUD, and a larger proportion were not aware of its high efficacy (58%) or safety (71%). Another study by Whitaker et al. [10] that surveyed women ages 15–24 years presenting for care at a general obstetrics and gynecology clinic found that fewer than half of young women had heard of the IUD and the majority of those women (63%) did not have positive attitudes about the method.

Our objective was to study teenagers' and young women's perceptions of and attitudes about the IUD in order to assess the feasibility of efforts to increase use of this method of contraception in this age group. Given the clear gaps in terms of provider behavior and knowledge deficits among potential IUD users, we wanted to assess factors that might influence decision making about the IUD in order to guide intervention development.

2. Materials and methods

We performed a cross-sectional survey of 252 female teenagers and young women presenting for appointments at the New Generation Health Center (NGHC), a clinic of the University of California San Francisco (UCSF) Department of Obstetrics, Gynecology and Reproductive Sciences, between January 9 and February 27, 2007. Ninety-four percent of NGHC patients are aged 15–24 years. The clinic population's ethnicity is diverse with 42% being Latino, 22% African American and 20% Asian or Pacific Islander. We estimated that a sample size of 194 would be needed to detect a clinically important difference in interest in IUD with 80% power if 40% of participants would be interested in the IUD.

Institutional review board approval for this study was obtained from the UCSF Committee on Human Research. Each patient presenting for her appointment was given an information sheet about the study and was asked whether she would like to participate. The participant was given an anonymous, self-administered survey with questions on demographics, sexual and birth control history, and the IUD. The survey included a picture of a levonorgestrel IUD (Mirena™) and lay text (eighth-grade reading level) with information about IUDs including a description of the size and shape of the IUD, use of hormones or copper, discretion, effectiveness, the need for clinician insertion and that it does not protect against sexually transmitted infections (STIs). This was followed by questions about the participant's interest in the method and questions about how bleeding, spotting and

amenorrhea might affect her decision to use the IUD and whether her condom use would change if she had an IUD. The survey had been previously pilot tested for clarity on a subsample of patients from the clinic. Surveys took approximately 10 min to complete. Over the study period, on average, there were 90 female visits per week at the clinic giving the survey a response rate of approximately 70%.

Survey data were analyzed using STATA software (StataCorp, College Station, TX, USA). Responses to survey questions were analyzed to determine associations between individual characteristics and interest in using an IUD. Due to the small cell sizes for participants who would use an IUD, Fisher's Exact Test was used to examine associations between categorical variables and *t* test was used to examine age. Variables associated with IUD use at the $p < .10$ level were put into a logistic regression model to examine associations while controlling for confounding.

3. Results

Demographic and descriptive characteristics of study participants stratified by interest in the IUD are presented in Table 1. The study population was largely English-speaking (93%) young women between the ages of 14 and 27 years. The majority was nulliparous (84%) and currently in a monogamous relationship (85%). Ninety-eight percent had ever had sex, and 80% had more than one lifetime sexual partner. Thirty-eight percent reported a history of at least one STI. The most common form of birth control used by the survey population was condoms, followed by the oral contraceptive pill. No participants reported prior or current IUD use, and 32% used no birth control or withdrawal at last intercourse. Fewer than half of participants (45%) had heard of the IUD, and 30% had heard of the IUD from a health care provider. Fifty-three percent of multiparous participants who had heard of the IUD had received information from a health care provider, whereas only 27% of nulliparous participants who had heard of the IUD had received the information from a provider ($p < .001$).

Table 2 shows survey participant opinions about IUD use. After viewing a picture of an IUD and reading the brief description, participants were asked whether they would be interested in using an IUD. Fifty-four percent answered "no," 11% answered "yes" and 35% were unsure. When asked to quantify their interest, 6% were "very interested," 20% "a little interested," 53% "not at all interested" and 21% "not sure." The most common reasons for interest in the IUD were efficacy, longevity of use and discretion of the method. The main reasons for disinterest were dislike of "the idea of something in my body," fear of pain with device insertion and the fact that a health care professional is required to insert and remove the device.

When queried about IUD-related amenorrhea, 28% of participants answered that this would not bother them at all, and an equal number answered that it would bother them enough that they would not choose the method. Almost one third of those surveyed said that light bleeding or spotting in the first 3–6 months of use would bother them enough to dissuade their interest in the IUD, as opposed to 25% who would not be bothered and 10% who would be bothered, but would tolerate light bleeding or spotting in order to have an IUD. Fifty-two percent of participants reported that having heavier periods and cramping from an IUD would not be acceptable.

When asked whether they thought their condom use would change if they had an IUD in place, 50% reported that they would not change their condom use, 32% thought they would be more likely to use condoms and 18% thought they would use condoms less often.

Logistic regression analysis revealed that participants who heard about the IUD from a health care provider were 2.74 times more likely to have an interest in using an IUD than those who had heard about the IUD from other sources or who had not previously heard about the IUD (95% CI 1.15–6.56), and participants who were parous (one or more births) were 4.39 times more likely to show an interest in the IUD than those who were nulliparous (95% CI 1.63–11.8).

Variables that were significant ($p < .10$) in the bivariate analysis and therefore included in the final logistic regression model were as follows: heard of IUD from health care provider, gravidity, parity (no births vs. one or more births) and ever used emergency contraception. Age was not significant, but was included in the final model since exposure widens with age. Having heard of the IUD from a health care provider and parity were the only significant variables ($p < .05$) in the logistic regression model.

4. Discussion

This study demonstrates, as in previous studies, that knowledge of IUDs is low among adolescents and young women. This study also demonstrates, however, that given basic written information about the IUD, the patients in this age group are also reluctant to consider using an IUD. Perhaps the most significant finding from this study is that having heard about the IUD from a health care provider is associated with interest in the method. Although this study is limited by its cross-sectional design, which only allows us to assess associations, we think the significant association between having heard about the IUD from a health care provider and interest in the method indicates that providers may have a positive impact on IUD interest and use. A large proportion of participants indicated that they were unsure about the IUD because of common reasons such as fear of pain with insertion or concerns about IUD-induced amenorrhea — concerns that could easily be addressed by a health care provider. This study complements findings from a study by Whitaker et al. [10] which showed an increase in positive attitude about the IUD among adolescents and young women after a 3-min educational intervention. The potential impact of provider or health educator counseling on contraceptive method attitudes and adoption is clearly an area of needed research.

This study also demonstrates that multiparous adolescents and young women are more likely to have heard of the IUD from any source than nulliparous patients of their age and are also more likely to have heard of the IUD from their provider. This is consistent with the literature indicating provider bias in counseling and offering patients IUDs [7]; however, our multivariate analysis of interest in the IUD indicates that multiparous adolescents and women were also more likely be interested in the IUD than their nulliparous counterparts, independent of age and of whether they had previously heard about the IUD from a health care provider. Women who have had children may be more motivated to prevent pregnancies or have fewer fears of invasive procedures making them more likely to consider the method. This study population of adolescents and young women presenting to an urban family planning clinic may not be representative of all women of this age group. Based on study participants' reported sexual activity and birth control practices, they may represent adolescents and young women at high risk for STIs and unintended pregnancy. A recent committee opinion released by ACOG discusses evidence that there is minimal increased risk of pelvic inflammatory disease (PID) with IUD use (related to insertion only), and that STI risk in teenagers and young women should not be an absolute contraindication to using this highly effective and safe method of birth control in this population [6,11,12]. This is the group, however, to whom providers are least likely to offer the IUD [7,8]. Studies indicate that providers who have more evidence-based information are more likely to offer IUDs to

their patients, indicating that interventions to increase uptake of IUDs should include a provider training component [7].

The majority of study participants reported that they thought they would not change or would increase their condom use with an IUD in place. However, other studies examining hormonal contraceptive use in adolescents have shown that adolescents tend to make trade-offs between condoms and more effective hormonal birth control methods [13]. There is evidence that 3 weeks or more after IUD insertion the rate of PID with an IUD in place is no greater than without an IUD [6,11,12]. Providers should have careful preinsertion screening guidelines as the risk of PID is increased in women who have an IUD inserted and have a cervical infection at the time of insertion compared to women who do not have an infection at the time of insertion [11,12]. While IUDs are not appropriate for all patients, there are a number of young women who would benefit from the high effectiveness and convenience of this method. Providers need to be aware that while multiparous women may be more likely to be interested in the method, nulliparous women are appropriate candidates and also may be interested in the method. There is a need for controlled trials of interventions to evaluate the appropriate content and best tools for providers to use to convey key information about the IUD to potential users of all ages.

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Table 1

Characteristics of survey participants and comparison of those who would use an IUD vs. participants who would not or are not sure (N=252)^a

Characteristic	Would use IUD (n=27)	Would not use IUD or not sure (n=220)	Total (N=252)	p value
Age (years), mean (SD)	20.6 (3.21)	19.9 (2.88)	20.0 (2.94)	.26*
14–16	2 (7.4)	20 (9.1)	23 (9.1)	
17–20	14 (51.9)	108 (49.1)	124 (49.2)	
21–24	7 (25.9)	79 (35.9)	87 (34.5)	
25–27	4 (14.8)	13 (5.9)	18 (7.1)	
Parity, n (%)				.001
0	16 (59.3)	191 (87.6)	211 (84.4)	
1 or more	11 (40.7)	27 (12.3)	39 (15.6)	
Abortions, n (%)				.517
None	19 (70.4)	149 (68.4)	171 (85.6)	
1 or more	8 (29.6)	69 (31.6)	79 (31.6)	
Relationship status, ^b n (%)				.33
Has main partner	25 (96.2)	194 (90.2)	220 (87.3)	
Living with partner ^c	6 (24.0)	48 (24.6)	55 (24.8)	1.0
Monogamous	22 (88.0)	163 (84.0)	186 (84.6)	.77
Age at first intercourse (years), mean (SD) ^d	15.3 (2.35)	15.7 (1.86)	Range: 7–22, 15.6 (1.91)	.34*
13 or younger	3 (12.0)	17 (8.0)	20 (8.4)	
14–16	18 (72.0)	144 (67.6)	163 (68.5)	
17–19	3 (12.0)	41 (19.3)	45 (18.9)	
20 or older	4 (15.0)	9 (4.2)	10 (4.2)	
Number of partners, n (%)				.17
Lifetime				
0	0	4 (2.0)	4 (1.6)	
1	2 (7.7)	45 (22.2)	47 (18.8)	
2–3	12 (46.2)	67 (33.0)	80 (32.0)	
4 or more	12 (46.2)	87 (42.9)	119 (47.6)	
Last 3 months				

Characteristic	Would use IUD (n=27)	Would not use IUD or not sure (n=220)	Total (N=252)	p value
0	0	12 (5.5)	12 (4.5)	
1	20 (74.1)	166 (76.2)	188 (70.7)	.45**
2-3	7 (25.9)	33 (15.1)	40 (15.0)	
4 or more	0	7 (3.2)	26 (9.8)	
Relationship length				.66
<3 months	3 (12.0)	25 (12.9)	28 (12.7)	
4 to 6 months	5 (20.0)	25 (12.9)	31 (14.1)	
7 to 12 months	3 (12.0)	18 (9.3)	21 (9.6)	
<1 year	14 (56.0)	126 (65.0)	140 (63.6)	
Sexually transmitted infections, ^b n (%)				.68
Ever had STI ^e	11 (40.7)	80 (36.4)	95 (37.7)	
Chlamydia	43 (19.6)	6 (22.2)	50 (19.8)	
Gonorrhea	1 (3.7)	5 (2.3)	7 (2.8)	
Other ^f	3 (11.1)	17 (7.7)	21 (8.3)	
Birth control method, n (%)				.61
Last sex				
None/withdrawal	9 (42.9)	67 (31.3)	77 (32.2)	
Pill/patch/ring	4 (19.1)	63 (29.4)	69 (28.9)	
Depo-Provera	3 (14.3)	25 (11.7)	28 (11.7)	
Condom only	5 (23.8)	59 (27.6)	65 (27.2)	
Ever used ^b				
Condoms	23 (85.2)	141 (64.1)	166 (65.9)	.03
Pill	9 (33.3)	94 (42.7)	105 (41.7)	.41
Patch	8 (29.6)	63 (28.6)	71 (28.1)	1.0
Vaginal ring	3 (11.1)	22 (10.0)	26 (10.3)	.74
Depo-Provera	11 (40.7)	53 (24.1)	65 (25.8)	.10
Emergency contraception	12 (19.4)	50 (22.7)	62 (24.6)	.02
Awareness of IUD, n (%)				
Have heard of IUD	20 (74.1)	93 (42.5)	114 (45.4)	.002
Where heard of IUD ^{b,g}				

Characteristic	Would use IUD (n=27)	Would not use IUD or not sure (n=220)	Total (N=252)	p value
Provider	15 (55.6)	60 (27.3)	76 (30.2)	.004
Friend	8 (29.6)	33 (15.0)	41 (16.3)	.09
Family member	5 (18.5)	21 (9.6)	26 (10.3)	.18
Advertisement	1 (3.7)	8 (3.6)	9 (3.6)	.65

^aSome columns and rows do not add to total due to missing values for some responses.

^bPercentages do not add to 100; participants could select more than one response.

^cLiving with partner includes married (n=6); includes participants who reported having a partner.

^dTwo participants reported never having sex.

^eSTI comparison is any previously diagnosed STI vs. none.

^fOther STI includes trichomonas, herpes, HIV/AIDS.

^gIncludes participants who reported having heard of IUD.

* *t* test; all other tests are Fisher's Exact Test.

** Compared 1 to 2+ partners in the last 3 months because of small sample sizes.

Table 2Survey participant opinions about IUD use ($N=252$)

	<i>n</i> (%)
How interested are you in using an IUD? ^a	
Very interested	15 (6.1)
A little interested	50 (20.4)
Not sure	51 (20.8)
Not interested	129 (52.7)
Reasons for interest ^b	
It is very effective at preventing pregnancy	84 (33.3)
It lasts for a long time	75 (29.8)
No one would have to know I'm using it	48 (19.1)
It is easy to use	44 (17.5)
I don't want to use birth control with hormones (for copper IUD)	37 (14.7)
I would not have to think about or do anything before I have sex	34 (13.5)
It would not get in the way of sex	21 (8.3)
Reasons for disinterest ^b	
I don't like the idea of something in my body	116 (46.0)
It might hurt to get it put in	62 (25.0)
A doctor or nurse has to put it in and remove it	48 (19.1)
It does not keep you from getting STDs	40 (15.9)
I don't want to use birth control with hormones (for Mirena)	18 (7.1)
I don't need a method of birth control	16 (6.3)
Side effects	
No periods	
Would be bothered enough to not use IUD	65 (28.1)
Would be bothered, but would use IUD	19 (8.2)
Would not be bothered	64 (27.7)
Not sure	83 (35.9)
Light bleeding between periods for 3 to 6 months	
Would be bothered enough to not use IUD	73 (31.6)
Would be bothered, but would use IUD	24 (10.4)
Would not be bothered	58 (25.1)
Not sure	76 (32.9)
Heavier periods and cramping	
Would be bothered enough to not use IUD	119 (52.0)
Would be bothered, but would use IUD	18 (7.9)
Would not be bothered	31 (13.5)
Not sure	61 (26.6)
Condom use with IUD	
More likely to use condoms	72 (31.7)

	<i>n</i> (%)
Less likely to use condoms	41 (18.1)
Condom use would not change	114 (50.2)

^aSeven respondents declined to answer; percentages calculated out of 245.

^bPercentages do not add to 100, since respondents were allowed to choose more than one answer.