Original Research

Women's Sexual Function, Satisfaction, and Perceptions After Starting Long-Acting Reversible Contraceptives

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OBJECTIVE: To document how long-acting reversible contraception (LARC) affects women's sexual outcomes.

METHODS: In this prospective, observational cohort study, we enrolled new-start intrauterine device and contraceptive implant users attending four family planning clinics. Data collection occurred at baseline, 1 month, and 3 months. Primary outcomes were the Female Sexual Function Index, New Sexual Satisfaction Scale, and perceived sexual effects of method (positive, negative, or none). Secondary outcomes included other factors associated with LARC's sexual acceptability, including the ability to "let go" in sex, sense of control over pregnancy, and bleeding changes. Chi square and F-tests assessed differences between method groups at baseline. Mixed-effects models, robust Wald χ^2 tests, and conditional logistic regression documented differences from baseline and trends over time.

RESULTS: In December 2014 to April 2015, 200 patients consented and enrolled in the study. Among 159 women who completed three survey rounds, 20% selected copper intrauterine devices, 46% levonorgestrel intrauterine devices, and 34% implants. Sexual functioning and satisfaction scores did not change over time. However, across methods, participants were more likely to report improvements to their sexual lives compared with baseline (χ^2 $P<.001$). By 3 months, 40% (n=64) reported positive changes and 17% (n=27) negative changes. Positive sexual changes were associated with one's sense of control over pregnancy and one's ability to "let go" in sex. Negative sexual changes were largely attributable to increased vaginal bleeding.

CONCLUSION: Although new LARC users reported no measurable objective change in sexual function or satisfaction, a sizable minority reported perceived positive, method-related sexual changes.

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Contraceptive researchers and practitioners rarely assess sexual acceptability, or how contraception affects women's sexual experiences.[1–3] Research on male-based contraceptives[4–6] demonstrates that sexual acceptability influences men's uptake and use of these methods. Building evidence suggests sexual acceptability shapes women's contraceptive practices as well.[7–10] However, more studies are needed–especially for long-acting reversible contraception (LARC), the most effective contraceptive methods currently available.[11,12]

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Two major measurement gaps hinder the research to date. First, most studies are cross-sectional,[13] preventing evaluation of sexual experiences over time.[14] Second, most extant research takes a solely physiologic approach to sexual acceptability, primarily through sexual libido[13,14] or the Female Sexual Function Index.[15] However, sexual acceptability includes other key domains, including psychologic factors such as sexual disinhibition, sexual aspects of side effects such as bleeding and cramping, and women's perceptions of whether their methods affect sexuality.[7,9,16,17]

A 2014 review examined 11 LARC studies that included sexuality measures.[18] Use of the intrauterine device (IUD) was more commonly associated with positive or neutral sexual effects than negative ones; however, the review identified mixed results, a lack of U.S. studies, and potential methodologic limitations. A 2016 U.S. study found copper IUD users significantly less likely than depot medroxyprogesterone acetate users to report lack of sexual desire in the previous 6 months[13]; however, it did not include baseline sexuality measures, which could have affected study results. This prospective study addresses these gaps by documenting sexual acceptability using a variety of sexuality measures among women initiating a LARC method.

MATERIALS AND METHODS

In this prospective, observational cohort study, participants were 18- to 44-year-old women seeking contraceptive services at one of four Planned Parenthood Association of Utah clinics from December 2014 to April 2015. The study was reviewed and approved by University of Utah's institutional review board. Per standard care protocols, patients received shared decision-making counseling from a clinic staff member and then selected the contraceptive method of their choice. All patients who selected a currently available LARC method (copper IUD, levonorgestrel IUD, or contraceptive implant) were informed by the counselor of the current study on sexuality and contraception. Study eligibility included a desire to prevent pregnancy for at least 1 year, fluency in English or Spanish, and a working phone number. Women who were sterilized, pregnant, or trying to get pregnant were ineligible. If eligible and willing to participate, patients provided informed consent and enrolled in the study during the same clinic visit. Participants received their devices free of charge, which they were informed about after contraceptive counseling and before completing the informed consent process.

Initial data collection took place before device insertion through use of the Research Electronic Data Capture, a secure, web-based research application. (See Appendix 1, available online at http://links.lww.com/AOG/A870, for the clinic intake form.) At 1 and 3 months, postdevice placement participants were prompted by their preferred method of communication (phone, text, or e-mail) to complete Research Electronic Data Capture follow-up questionnaires. Surveys took approximately 15 minutes, and respondents received a small amount gift card credit for each completed round.

Baseline surveys collected information on variables that can influence both contraceptive choice and sexual outcomes and would later serve as control variables: sociodemographic information, obstetric history, relationship status and length, and health status (as captured by the WHO-5,[19] a five-item measure of functional health and well-being). Women were also asked, "How important are each of the following characteristics to you when you decide which birth control method to use?" Based on qualitative[7,17] and theoretical research,[20] we included two sexual acceptability criteria ("it doesn't reduce my libido" and "it doesn't interrupt sex") alongside the other more common criteria[21] such as efficacy, hormonal content, and friend recommendation.

Our primary objective was to assess sexual outcomes among new LARC users over time while controlling for relevant baseline factors. Three

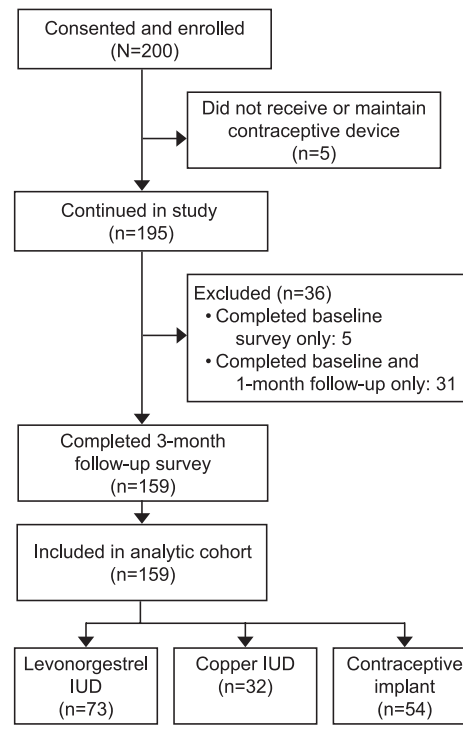

Fig. 1. Participant flow diagram. IUD, intrauterine device.
Higgins. New IUD and Implant Users' Sexual Outcomes. Obstet Gynecol 2016.

Table 1. Participant Characteristics and Criteria for Choosing a New Contraceptive Method Selected by New-Start Contraceptive Users at Baseline by Method

Characteristics and Criteria	Total*	Copper IUD	LNG IUD	Implant	P†
Method chosen at baseline	159 (100)	32 (20.1)	73 (45.9)	54 (34.0)	
Age (y)	26.9±6.1	27.0±6.03	28.1±6.09	25.1±5.82	.021
Highest level of education completed					.428
11th grade or less	5 (3.3)	6 (3.3)	1 (1.5)	3 (5.8)	
12th grade (completed high school or high school equivalency certificate)	49 (32.5)	9 (30.0)	20 (29.0)	20 (38.5)	
Vocational or technical training	17 (11.3)	3 (10.0)	11 (15.9)	3 (5.8)	
Associate degree or some college	55 (36.4)	11 (36.7)	23 (33.3)	21 (40.4)	
College graduate or higher	25 (16.6)	6 (20.0)	14 (20.3)	5 (9.6)	
Race–ethnicity					.078
Non-Hispanic white	102 (67.1)	17 (56.7)	54 (78.3)	31 (58.5)	
Hispanic nonwhite	35 (23.0)	10 (33.3)	11 (15.9)	14 (26.4)	
Non-Hispanic other	15 (9.9)	3 (10.0)	4 (5.8)	8 (15.1)	
Current employment or student status					.717
Unemployed	33 (20.8)	6 (18.8)	14 (19.2)	13 (24.1)	
Working full-time	80 (50.3)	17 (53.1)	36 (49.3)	27 (50.0)	
Working part-time	30 (18.9)	4 (12.5)	15 (20.6)	11 (20.4)	
Disabled or sick leave	13 (8.2)	3 (9.4)	7 (9.6)	3 (5.6)	
Retired	3 (1.9)	2 (6.3)	1 (1.4)	0 (0.0)	
Annual household income ($)					.090
Less than 10,000	30 (19.7)	5 (16.7)	13 (18.8)	12 (22.6)	
10,000–29,999	76 (50.0)	14 (46.7)	42 (60.9)	20 (37.7)	
30,000 or greater	46 (30.3)	11 (36.7)	14 (20.3)	21 (39.6)	
Relationship characteristics					
Less than 3 mo	29 (21.6)	6 (21.4)	14 (22.6)	9 (20.5)	.319
3 mo to 1 y	40 (29.9)	12 (42.9)	14 (22.6)	14 (31.8)	
1–3 y	31 (23.1)	5 (17.9)	13 (21.0)	13 (29.6)	
More than 3 y	34 (25.4)	5 (17.9)	21 (33.9)	8 (18.2)	
Marital status					.721
Never married, not living with partner	79 (52.3)	12 (41.4)	35 (50.7)	32 (60.4)	
Cohabiting	20 (13.3)	4 (13.8)	10 (14.5)	6 (11.3)	
Married	31 (20.5)	7 (24.1)	14 (20.3)	10 (18.9)	
Separated, divorced, or widowed	21 (13.9)	6 (20.7)	10 (14.5)	5 (9.4)	
Reasons for choosing a new birth control method					
It is the most effective method					.712
Not at all important	4 (2.7)	1 (3.5)	1 (1.5)	2 (3.9)	
Slightly or quite important	31 (21.1)	4 (13.8)	15 (22.4)	12 (23.5)	
Extremely important	112 (76.2)	24 (82.8)	51 (76.1)	37 (72.6)	
It does not reduce my libido					
Not at all important	9 (6.4)	0 (0.0)	4 (6.1)	5 (10.4)	.554
Slightly or quite important	23 (16.3)	5 (18.5)	10 (15.2)	8 (16.7)	
Extremely important	109 (77.3)	22 (81.5)	52 (78.8)	35 (72.9)	
It does not interrupt sex					.730
Not at all important	6 (4.0)	0 (0.0)	4 (5.9)	2 (3.9)	
Slightly or quite important	34 (22.8)	7 (24.1)	17 (25.0)	10 (19.2)	
Extremely important	109 (73.2)	22 (75.9)	47 (69.1)	40 (76.9)	
It is acceptable to my partner					.264
Not at all important	36 (24.3)	6 (21.4)	14 (20.6)	16 (30.8)	
Slightly or quite important	55 (37.2)	7 (25.0)	28 (41.2)	20 (38.5)	
Extremely important	57 (38.5)	15 (53.6)	26 (38.2)	16 (30.8)	
It does not contain hormones					<.001
Not at all important	39 (29.1)	2 (6.9)	20 (32.3)	17 (39.5)	
Slightly or quite important	60 (44.8)	6 (20.7)	32 (51.6)	22 (51.2)	
Extremely important	35 (26.1)	21 (72.4)	10 (16.1)	4 (9.3)	
It is recommended by my friends					.251
Not at all important	62 (41.9)	9 (30.0)	29 (43.3)	24 (47.1)	

(*continued*)

Table 1. Participant Characteristics and Criteria for Choosing a New Contraceptive Method Selected by New-Start Contraceptive Users at Baseline by Method (*continued*)

Characteristics and Criteria	Total*	Copper IUD	LNG IUD	Implant	P†
Slightly or quite important	75 (50.7)	16 (53.3)	34 (50.8)	25 (49.0)	
Extremely important	11 (7.4)	5 (16.7)	4 (6.0)	2 (3.9)	
It is in line with my religious beliefs					.022
Not at all important	115 (82.7)	22 (84.6)	53 (84.1)	40 (80.0)	
Slightly or quite important	17 (12.2)	0 (0.0)	8 (12.7)	9 (18.0)	
Extremely important	7 (5.0)	4 (15.4)	2 (3.2)	1 (2.0)	

IUD, intrauterine device.
Data are n (%) or mean±standard deviation unless otherwise specified.
* Totals vary between 134 and 159 as a result of missing data items.
† *P* values are for null hypothesis of no difference in percentage distribution (tested through Fisher exact test) or means (tested through F-test) between contraceptive method groups.

measures contributing to the primary outcome were as follows: 1) the Female Sexual Function Index-6,[22] a validated, six-question measure including items on sexual desire and interest, arousal, lubrication, orgasm, pain, and satisfaction; 2) the New Sexual Satisfaction Scale,[23] a validated, 20-question measure with some functioning items but additional sexual domains such as partner-oriented items and the ability to "let go" during sex; and 3) a question devised and piloted by the research team about participants' perceptions of their contraceptive method's sexual effects, if any ("In the last 4 weeks, would you say your contraceptive method: made my sex life better, made it worse, or had no effect on my sex life?").

Our secondary objective was to assess other sexual factors potentially involved in the sexual acceptability of these contraceptive methods, including the sexual-related selection criteria measures mentioned previously. Other secondary sexual measures were based on recent qualitative research on the sexual acceptability of IUDs in the United States.[17] The potential sexual effects of bleeding changes were captured with a question about vaginal bleeding in the previous 4 weeks (no bleeding, less bleeding than before the device, no change, more bleeding). To capture the potential sexual effects of sexual disinhibition by way of feeling extremely protected against pregnancy, we used two questions: 1) the "surrender" question of the New Sexual Satisfaction Scale, in which women ranked their satisfaction with their "ability to let go and 'surrender' to sexual pleasure during sex"; and 2) women's responses (from strongly disagree to strongly agree) to an item phrased "I feel I have control over whether I get pregnant."

Table 2. Sexual Outcomes by Method Group Across Time

	Baseline				1 Mo			
Sexual Outcome	Copper IUD	LNG IUD	Implant	All	Copper IUD	LNG IUD	Implant	All
FSFI-6 score	23.6±6.74	22.5±6.22	21.8±8.31	22.5±7.09	21.5±6.33	22.8±7.46	21.4±8.74	22.1±7.70
NSSS score	34.1±10.7	32.4±11.6	31.8±12.2	32.5±11.6	32.9±10.1	32.5±12.7	31.0±11.5	32.1±11.8
Subjective item: in the past 4 wk, would you say your contraceptive method has								
Worsened my sex life	13 (43.3)	20 (29.0)	9 (17.0)	42 (27.6)	7 (21.9)	11 (15.1)	6 (11.10)	24 (15.1)
Had no effect on my sex life	12 (40.0)	37 (53.6)	37 (69.8)	86 (56.6)	12 (37.5)	32 (43.8)	31 (57.4)	75 (47.2)
Improved my sex life	5 (16.7)	12 (17.4)	7 (13.2)	24 (15.8)	13 (40.6)	30 (41.1)	17 (31.5)	60 (37.7)

IUD, intrauterine device; LNG, levonorgestrel; FSFI, Female Sexual Function Index; NSSS, New Sexual Satisfaction Scale.
Data are mean±standard deviation or n (%) unless otherwise specified.
* *P* value for time trend (regression slope) in overall percentages across time points tested by F-test in mixed-effects model for continuous outcomes and by robust Wald χ^2 test from generalized estimating equation for ordinal outcome. This time trend across accounts for within-individual correlation across time.
† *P* value for robust Wald χ^2 test for time trend (cumulative logit regression slope).

All analyses were conducted with SAS 9.4.[24] Descriptive statistics came from means (standard deviations) and percentages. F-tests (for continuous variables) and Pearson χ^2 tests (for categorical variables) compared baseline characteristics across contraceptive groups. To assess trends in sexual outcomes over time, mixed-effects models were fit for continuous outcomes with time trend, random intercept, and random slope across time–separately for each contraceptive method and then with all the method groups combined. Interaction effects between contraceptive methods and time trend tested whether methods differed in their effect. Perceived effect of contraceptive method on sex life over time was compared across time points through robust Wald χ^2 tests and conditional logistic regression. Models were fit both with and without adjustment for self-reported health as a time-varying factor. Finally, we performed overall χ^2 tests to document associations between perceived sexual changes (grouped as better, unchanged, and worse) and both vaginal bleeding and sexual disinhibition (ie, the "surrender" question and the control-over-pregnancy question).

The primary aim of this study was to assess three sexual outcome measures in three groups of LARC users. However, given its prominence in the sexual acceptability literature, we based the sample size calculation on the Female Sexual Function Index and informed this with the method mix from historical data at the participating sites (12% implant, 60% levonorgestrel IUD, and 28% copper T IUD). Based on prior research, we assumed baseline average Female Sexual Function Index total scores of 31 (standard deviation=5).[25] We assumed the implant would lead to no change in Female Sexual Function Index and both IUDs would lead to a five-unit improvement in Female Sexual Function Index total score over 3 months. With 125 participants, we were powered at 90% at 5% significance to compare changes over time in total Female Sexual Function Index score among the three method groups–the equivalent of an effect size of 0.33. With an anticipated retention rate of 83%, we planned to recruit 150 participants (18 implant, 90 levonorgestrel IUD, and 48 copper T IUD).

RESULTS

A total of 195 women consented to participate in the study and had successful insertions. Of 195 enrollees, 159 original study participants (32 copper IUD users, 73 levonorgestrel users, and 54 contraceptive implant users) completed the 3-month follow-up, indicating a retention rate of 82% (Fig. 1). In the month before study enrollment, participants had used the following methods, either by themselves or in conjunction with other methods (not shown): 45% condoms (n=86 for male condoms, n=1 for female condom), 28% withdrawal (n=54), 19% oral contraceptives (n=36), 12% no method, 10% 3-month injection (n=20), 7% emergency contraception (n=14), 4% vaginal ring (n=8), 2% contraceptive patch (n=4), 3% fertility awareness

	3 Mo				
Sexual Outcome	Copper IUD	LNG IUD	Implant	All	*P*
FSFI-6 score	22.1±6.99	22.5±7.61	21.0±8.98	21.9±7.97	.39*
NSSS score	33.0±11.5	32.2±12.7	31.7±12.0	32.2±12.2	.51*
Subjective item: in the past 4 wk, would you say your contraceptive method has					<.001†
Worsened my sex life	7 (21.9)	11 (15.1)	9 (16.70)	27 (17.0)	
Had no effect on my sex life	9 (28.1)	33 (45.2)	26 (48.2)	68 (42.8)	
Improved my sex life	16 (50.0)	29 (39.7)	19 (35.2)	64 (40.3)	

methods (n=5), 1% spermicide (n=2), and 1% copper IUD.

Table 1 displays baseline characteristics of participants by method selected. Participants had a mean age of 27 years, the majority were unmarried (80%, n=120) and had at least some college or vocational training (64%, n=97), and one third were women of color (23% [n=35] Hispanic nonwhite and 10% [n=15] non-Hispanic other). There were few significant sociodemographic differences between method groups save for age with contraceptive implant users slightly younger in years.

Table 1 also features information on method selection criteria. More than three fourths (76%, n=112) of women said method effectiveness is extremely important to them in choosing a method; just as many said it was extremely important that a method does not reduce libido (77%, n=109) and does not interrupt sex (73%, n=109). There were no significant differences across method groups. There were few differences in selection criteria by method group; although, as expected, women who selected the copper IUD were significantly more likely than the other two groups to say that "lack of hormones" was extremely important.

Table 2 shows the three primary sexuality measures by both method type and time period. Neither overall Female Sexual Function Index scores nor New Sexual Satisfaction Scale scores differed significantly between each of the three LARC groups at any time or between time periods. However, participants were significantly more likely to report perceived improvements to their sexual lives as a result of their contraceptive method (χ^2 $P<.001$). For example, at 1 month, 38% of women (n=60) indicated their new method had improved their sex life in the previous 4 weeks compared with 15% (n=24) reporting their method had made their sex life worse. By 3 months, 40% (n=64) of women reported positive changes and 17% (n=27) reported negative changes. Sexual outcomes showed few differences across the method groups.

The significance of women's perceived sexual improvements resulting from contraceptive method remained even after adjusting for all differences between individuals through conditional logistic regression (not shown in tables). This method compares individuals with themselves at different time points with respect to perceived effect of contraceptive method on sex life. Women remained significantly more likely to report positive changes at both 1 and 3 months with odds ratios of 4.64 (95% confidence interval [CI] 2.38–9.92) and 5.61 (95% CI 2.83–10.0), respectively.

To help explain reports of positive compared with negative method-related sexual changes, we performed χ^2 tests between the measure of perceived sexual changes and the three secondary sexual outcomes: reports of vaginal bleeding changes, the surrender question of the New Sexual Satisfaction Scale, and the control-over-pregnancy variable (Table 3). Because there were few significant differences in sexuality outcomes by method, and to simplify data presentation, we combined the three contraceptive method groups into one for these analyses. All three variables were significantly associated with women's perceived sexual changes. For example, at 1 month, among those women who reported their method had made their sex life worse, the overwhelming majority (88%, n=21) reported increased vaginal bleeding compared with only 38% (n=23) of women reporting sexual improvements. In terms of sexual surrender, women reporting negative sexual changes resulting from their method in the previous month were significantly less likely to be satisfied with their ability to "let go" during sex. Finally, among women reporting positive sexual changes, a greater proportion reported the highest levels of perceived control over pregnancy.

DISCUSSION

This study assessed 159 U.S. women's sexual experiences with IUDs and contraceptive implants while controlling for baseline sexuality factors. The overwhelming majority reported either no sexual changes or positive sexual changes after using a LARC method for 3 months. These findings align with European and Middle Eastern research showing sexual improvements in some women using IUDs.[18,26–29] Although participants in the current study did not report significant changes in sexual functioning or satisfaction, more than half reported perceived sexual changes as a result of their method. Those few women who reported negative sexual changes were significantly more likely to have experienced increased vaginal bleeding.

Findings from this study expand how we define and measure the concept of contraception's sexual acceptability.[20] The few contraceptive studies that have included any sexual measures tend to either use the Female Sexual Function Index[15] or a single sexual functioning measure such as lack of interest in sex.[13] However, such functioning measures were not designed for young, healthy, contraception-seeking women. They may also miss sexual domains such as psychologic factors, subjective perceptions, or sexual aspects of bleeding and cramping.[17,20] In our study, sexual functioning and satisfaction did not change significantly with LARC use, whereas women's

Table 3. Associations Between Perceived Sexual Changes Resulting From Method (Better, Unchanged, Worse) and Vaginal Bleeding, Sexual Surrender or Disinhibition, and Control Over Pregnancy by Time*

	1 Mo				3 Mo			
Covariate	Sexual Improvements	No Sexual Change	Sexual Detractions	$P^{\dagger}$	Sexual Improvements	No Sexual Change	Sexual Detractions	$P^{\dagger}$
n[‡]	60	75	24		64	68	27	
Vaginal bleeding in the previous 4 wk				.004[†]				<.001[†]
No vaginal bleeding	11 (18.3)	13 (17.3)	0 (0.0)	<.001[§]	18 (28.1)	18 (26.5)	3 (11.1)	<.001[§]
Less bleeding than before device	20 (33.3)	16 (21.3)	2 (8.3)		24 (37.5)	18 (26.5)	1 (3.7)	
No change in bleeding	6 (10.0)	5 (6.7)	1 (4.2)		5 (7.8)	3 (4.4)	3 (11.1)	
More bleeding than before device	23 (38.3)	41 (54.7)	21 (87.5)		17 (26.6)	29 (42.7)	20 (74.1)	
Satisfaction with your ability to "let go" and surrender to sexual pleasure in the previous 4 wk				.014[†]				<.001[†]
Very or extremely satisfied	44 (73.3)	33 (47.1)	10 (41.7)	.002[§]	46 (71.9)	34 (53.2)	7 (28.0)	<.001[§]
Moderately satisfied	9 (15.0)	18 (25.7)	6 (25.0)		12 (18.8)	13 (20.3)	7 (28.0)	
Not at all or a little satisfied	7 (11.7)	19 (27.1)	8 (33.3)		6 (9.4)	17 (26.6)	11 (44.0)	
"I feel like I have control over when I get pregnant"[‡]				.131[†]				.079[†§]
Strongly agree	50 (83.3)	49 (65.3)	15 (62.5)	.040[§]	50 (78.1)	50 (73.5)	16 (59.3)	.014[§]
Somewhat agree	6 (10.0)	16 (21.3)	6 (25.0)		12 (18.8)	13 (19.1)	5 (18.5)	
Neither agree nor disagree, somewhat disagree, and strongly disagree (combined)	4 (6.7)	10 (13.3)	3 (12.5)		2 (3.1)	5 (7.4)	6 (22.2)	

IUD, intrauterine device.
Data are n (%) unless otherwise specified.
* Here, all method groups (copper IUDs, levonorgestrel IUDs, implants) are combined. Results represent cross-sectional associations between perceived sexual changes and other sexual covariates between at one time period (1 month, 3 months).
† *P* values are from Fisher exact test of null hypothesis that percentage distributions are equal in all sexual change groups.
‡ Sample sizes in cross-tabulations vary between 153 and 159 as a result of missing data items.
§ *P* values are from Mantel-Haenszel χ^2 test of correlation between sexual change and ratings on the three variables.

perceptions of their method's sexual effects did. Such perceptions are likely to influence contraceptive continuation. Moreover, we documented correlates of these perceived sexual improvements. For example, sexual improvements were strongly associated with the ability to "let go" in sex and one's sense of control over pregnancy prevention, suggesting that many women may be able to enjoy sexual activity more when the threat of pregnancy is reduced, a finding that corroborates qualitative research on the sexual acceptability of IUDs in the United States.[17]

A final important finding is that sexual-related criteria may influence women's selection of new contraceptive methods more than previously examined. Proportionally as many participants in this study valued efficacy as they did methods that neither reduce libido nor interrupt sex. These findings align with recent research by Gomez and Clark,[21] who found that the most frequently selected contraceptive feature by potential IUD users was "does not interfere with the pleasure of sex," thereby trumping features such as effectiveness. Sexual criteria should be better integrated into contraceptive counseling protocols and decision support tools.

Findings should be interpreted in light of study limitations. First and foremost, our study included

LARC methods only and no control group. We therefore cannot determine whether LARC users are sexually or psychologically different compared with women who select hormonal methods or barrier methods nor whether LARC users have better sexual outcomes. Future studies should include a broader array of contraceptive methods, including condom-only users or another type of nonhormonal comparison group.

Secondary limitation are as follows. Our sexual measure regarding perceived sexual changes resulting from method only had three possible response categories (no change, better, or worse); a greater number of responses or a continuous scale may have picked up more nuance. Participants may have been using contraceptive method(s) in the month before the study that could have affected their sexual measures at baseline and over the course of the study. However, we used the study methodology described here as a result of its practicality and feasibility; moreover, a group of participants who have used no contraceptive method(s) in the month before the study would be sexually select compared with a more average contraceptive-seeking population. In addition, the clinical setting of this study offered a realistic compared with a laboratory environment, but one cost of this setting was the inability to collect data on all eligible participants who declined enrollment. Finally, because clinical assistants highlighted the sexual aspects of the study when enrolling potential participants, our sample may be select–that is, they may represent patients who care more about sexuality than the average contraceptive user. On the other hand, we argue that sexuality is of interest to most if not all women seeking contraception, a finding upheld in other studies.[21]

Study findings suggest at least two clinical implications. First, practitioners may wish to reassure patients that they are unlikely to experience declines in sexual function or satisfaction as a result of their LARC method. Moreover, they may wish to inform contraceptive users about the potentially sexual-enhancing aspects of LARC methods–that is, that a greater proportion of LARC users will perceive positive compared with negative sexual effects as a result of their method, and the overwhelming majority will experience either no sexual change or a positive sexual change. This information may improve LARC method uptake and satisfaction with potential positive public health benefits. Second, patients deserve upfront education and reassurances about the management of increased bleeding and cramping. The few women in this study reporting negative sexual changes were also likely to report increased vaginal bleeding–an effect that will typically improve for levonorgestrel IUD users and may be ameliorated for copper IUD users and contraceptive implant users.[30]

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