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A prospective analysis of the relationship between sexual acceptability and contraceptive satisfaction over time

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Abstract

BACKGROUND: Contraceptives are used to prevent unwanted pregnancies and treat certain gynecologic conditions, but many women report non-use or inconsistent use because of method dissatisfaction. The sexual acceptability of contraception—how birth control methods affect users' sexual well-being—is likely an important component of contraceptive satisfaction but has yet to be systematically examined.

OBJECTIVE: This study aimed to assess contraceptive satisfaction among new-start contraceptive users and examine whether sexual acceptability measures predict contraceptive satisfaction at 3 months while controlling for more commonly measured contraceptive side effects.

STUDY DESIGN: This analysis used data derived from the baseline, 1-month, and 3-month surveys of the HER Salt Lake Contraceptive Initiative, a prospective cohort study of new contraceptive clients. From March 2016 to March 2017, enrolled participants received their desired contraceptive method at no cost and could switch or discontinue at any time (up to 3 years). This analysis included individuals who continued their new contraceptive method for at least 1 month and completed all relevant survey measures. We used ordered logistic regression modeling to predict contraceptive satisfaction at 3 months. Primary predictor variables included changes in sexual functioning (6-item Female Sexual Function Index), sexual satisfaction (New Sexual Satisfaction Scale), and perceived impact of the contraceptive method on sex life at 1 month. Covariates included vaginal bleeding changes, physical side effects, and mood-related side effects.

RESULTS: Our analytical sample included 1879 individuals. At 3 months, 52.1% of participants were "completely satisfied" with their contraceptive method, 30.7% were "somewhat satisfied," 4.2% were "neither satisfied nor dissatisfied," 6.9% were "somewhat dissatisfied," and 6.2% were "completely dissatisfied." Compared with patients who said their contraceptive method made their sex life "a lot" worse at 1 month, patients whose method improved their sex life "a lot" had a 7.7 times increased odds of greater satisfaction at 3 months (95% confidence interval, 4.02–14.60;

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P<.0001) and patients whose method improved their sex life a "little" had a 5.88 times increased odds of greater satisfaction (confidence interval, 3.12–11.11; *P*<.001). To a much lesser degree, experiencing less or no bleeding was significantly associated with increased satisfaction, whereas worsening of physical side effects was linked to decreased satisfaction. The only other factors significantly associated with satisfaction were changes in bleeding and physical side effects.

CONCLUSION: Our findings suggest that patients' sexual experiences of their contraceptive methods are important correlates of satisfaction. Clinicians may wish to underscore that sexual experiences of birth control methods matter and encourage patients to find a contraceptive method that works for them sexually.

Keywords

birth control; bleeding; contraception; satisfaction; sexual acceptability; side effects

Introduction

With 95% of US women using a birth control method at some point in their lives,[1] contraception is one of the most frequently used medical products. Contraception prevents millions of unwanted pregnancies annually, positively influencing pregnancy- and birth-related health and social outcomes. Many birth control methods are used for noncontraceptive purposes or treatment of certain gynecologic conditions.[2,3] Despite these potential benefits, a significant proportion of US pregnancies are still classified as unwanted,[4] and many women report contraceptive non-use or inconsistent use because of method dissatisfaction.[5]

Satisfaction and continuation are likely closely aligned for many users,[5–7] but method continuation (or discontinuation) does not necessarily imply satisfaction (or dissatisfaction).[8–11] For example, some dissatisfied users of long-acting reversible contraceptives (LARCs)—intrauterine devices (IUDs) and implants—may continue use because of difficulties having their devices removed.[10,11] Furthermore, discontinuation may not indicate dissatisfaction, as patients' preferences or behaviors might change on the basis of relationship context, pregnancy desires, or other life circumstances.[8,9] Although researchers and clinicians often focus on contraceptive continuation, "satisfaction" is a more person-centered outcome that better captures users' actual experiences of their contraceptive method.[8,12]

To understand and improve patients' contraceptive satisfaction, researchers have examined characteristics, such as effectiveness, side effects, affordability, mode of administration, method, and use of one's preferred method.[13–18] However, an important but under-examined factor in contraceptive satisfaction is "sexual acceptability," a broad construct of how contraceptives affect people's sexual well-being.[19–21] Evidence suggests that contraceptive sexual acceptability can be central to contraceptive choices and experiences.[21–24] For example, we already know that sexual acceptability is strongly associated with LARC continuation.[25]

Despite evidence of associations between sexual acceptability and contraceptive behaviors, at least 3 critical gaps remain. First, we lack evidence linking sexual acceptability to contraceptive satisfaction, which is a more person-centered outcome than continuation, "adherence," or "compliance."[8] Second, existing studies have taken a narrow approach to assess sexual acceptability,[26] focused primarily on "physiological" domains and measures, particularly the Female Sexual Function Index (FSFI),[27] which gauges factors, such as lubrication, arousal, and orgasm. However, patients' "*perceptions*" of their methods' sexual impacts may be equally if not more important than physiological sexual functions.[21,23,25,28,29] Third, most existing studies on satisfaction are largely focused on LARC users, but these methods will not fit all users' preferences[30,31]; thus, patients' experiences of the full range of methods warrant greater attention.

Here, to document individual-level factors associated with contraceptive satisfaction at 3 months, we used data from a study in which participants selected any method at no cost and could switch methods at any time. We selected this time horizon to capture as many users as possible, based on findings that few people discontinue after 1 month and most discontinuations occur after 3 months.[17,32] We hypothesized that sexual acceptability–related changes at 1 month would be correlated with contraceptive satisfaction at 3 months and that these effects would be consistent with if not greater in magnitude than factors such as reported side effects and bleeding changes.

Materials and Methods

Overview, data source, and population

Data derive from the HER Salt Lake Contraceptive Initiative, a longitudinal cohort nested in a quasi-experimental, observational study (ClinicalTrials.gov Identifier: NCT02734199).[33] Recruitment occurred at 4 participating family planning health centers in Salt Lake County, Utah, from September 2015 to March 2017. Individuals could enroll in the survey arm if they were 18 to 45 years old, spoke English or Spanish, were a new patient or were receiving a new contraceptive method, and did not want to become pregnant for at least 1 year. Compared with the all-served cohort, survey arm participants were more likely to be 18 to 24 years old, non-Hispanic White, parous, and self-paying, and to select a LARC method.[33] All participants engaged in standardized contraceptive counseling with a trained clinic staff member. This study was approved by the University of Utah Institutional Review Board.

For 1 year beginning on March 28, 2016, clients received their method at no cost and could freely switch or discontinue methods for up to 3 years (n=3709). We excluded participants who continued an existing method (n=307), did not select one of the 6 most common methods (n=87), lacked valid data on the length among surveys (n=286), or discontinued their enrolment method before 1 month (n=147). Because we used measures designed for sexually active populations, we excluded participants not sexually active at baseline or 1 month (n=335). Finally, we excluded respondents missing complete data on our outcome or main explanatory variables (n=668). Our final analytical sample included 1879 individuals (Figure).

Procedures and measures

The study team created, administered, and managed surveys using Research Electronic Data Capture.[34] Surveys were available in English and Spanish and could be completed in person (baseline survey only), online, or by phone, depending on patient preference. Participants were compensated for survey completion.

At the 3-month follow-up survey, we asked participants to rate their satisfaction with their contraceptive method in the last 4 weeks on a 5-point Likert scale ("completely dissatisfied," "somewhat dissatisfied," "neither satisfied nor dissatisfied," "somewhat satisfied," or "completely satisfied"). A small number of patients (n=103) discontinued their enrollment method between 1 and 3 months and are therefore missing data on 3-month satisfaction. However, we did not want to exclude these participants because doing so may have biased our results toward more satisfied users. Thus, we examined participants' reason for discontinuation, and if they discontinued due to method-related reasons (eg, bleeding, cramping, pain), we coded them as "completely dissatisfied" (n=77). Notably, 26 participants discontinued their method between 1 and 3 months for other reasons (eg, wanting to become pregnant) or did not provide a reason. We excluded these participants from our regression model because we could not ascertain their 3-month contraceptive satisfaction.

We examined 3 measures related to sexual acceptability—the study's main predictor variables—at baseline and 1 month. Validated surveys included the 6-item version of the FSFI (FSFI-6),[35] which assessed desire, arousal, pain, lubrication, orgasm, and overall satisfaction, and the New Sexual Satisfaction Scale (NSSS),[36] which includes 20 items that capture physiological, psychological, partner-related, and activity-focused components of sexuality. These measures assess patient experiences in the last month, with higher values reflecting higher levels of functioning and satisfaction, respectively. Furthermore, follow-up surveys captured patients' perceptions of contraceptive-related sexual effects: "In the last 4 weeks, would you say that your birth control method has improved your sex life a lot, improved your sex life a little, had no effect on your sex life, has made your sex life a little worse, or has made your sex life a lot worse?"

Primary covariates included bleeding changes and other physical and mood-related changes that could contribute to contraceptive satisfaction. The enrollment and follow-up surveys contained the validated Menstrual Symptom Questionnaire (MSQ),[28] which captures both physical (headaches, bloating, cramping, breast tenderness, acne, diarrhea or constipation, and weight gain or loss) and mood domains (feelings of depression or mood changes). Higher MSQ values indicated more side effects.

Moreover, follow-up surveys assessed whether respondents' vaginal bleeding had increased, decreased, or not changed in the past month. Fixed sociodemographic control measures came from the enrollment survey and included age, race and ethnicity, relationship status, sexual orientation, annual household income, and the validated World Health Organization-5 Well-Being Index.[37] Participants with missing data on control variables were coded into the "other" category for variables with this category; otherwise, we coded them as "missing" on that variable in the regression.

Analyses

We first described percent distributions for contraceptive satisfaction at 3 months. Then we documented the perceived impact of the contraceptive method on sex life and changes in vaginal bleeding, sexual functioning and satisfaction, and frequency of menstrual side effects at baseline and 1 month. Next, we created multivariate ordered logistic regression models, with satisfaction with the contraceptive method at 3 months as the outcome of interest. Main covariates included 1-month assessments of whether the contraceptive method had impacted one's sex life in the past 4 weeks and changes in vaginal bleeding, sexual functioning and satisfaction, and physical side effects from baseline to 1 month. We ran 2 sensitivity analyses, in which we (1) coded participants who discontinued for method-related reasons as "somewhat dissatisfied" rather than "completely dissatisfied" and (2) excluded participants who discontinued between 1 and 3 months from the analysis. We conducted all analyses using Stata (version 16; StataCorp LLC, College Station, TX).[38]

Results

Descriptive statistics

Table 1 presents descriptive statistics among the full analytical sample (n=1879). The most commonly selected methods were the levonorgestrel 52 mg IUD (31.2%), the etonogestrel contraceptive implant (23.1%), oral contraceptive pills (16.0%), and the copper T380A IUD (15.5%). Here, 62% of respondents were under the age of 25 years. One-third of respondents (33.5%) identified as persons of color. Furthermore, 40% had a high school diploma or less, and 38.0% reported household incomes at or below the federal poverty level. About half of respondents (52.2%) were cohabiting or in a committed relationship, and most respondents (86.5%) identified as "exclusively" or "mostly" heterosexual. The 6-month retention rate of participants in the study was 92%.

Changes in bleeding, sexuality measures, and side effects from baseline to 1 month

Table 2 presents the main independent variables' and covariates' descriptive values, including the average change in NSSS, FSFI-6, and MSQ scores from baseline to 1 month. Most respondents (53.4%) reported that their contraceptive method improved their sex life a little or a lot from baseline to 1 month, 16.7% stated that their method made their sex life a little or a lot worse, and 29.9% said their method had no sexual effect. NSSS scores[27] decreased by 2.1 of 80 points in the first month, whereas FSFI-6 scores[26] decreased by only 0.39 of 36 points, although both changes had wide distributions (standard deviations [SDs], 16.6 and 5.3, respectively). The physical and mood domains from the MSQ both increased (ie, worsened) by 0.3 of 5 points throughout the first month (SDs, 1.5 and 0.9, respectively). Forty-seven percent reported increased vaginal bleeding in the first month of use, 25.6% reported less bleeding than before, 14.3% reported no bleeding, and 13.5% reported no change.

Contraceptive satisfaction at 3 months

At 3 months, 95% of our sample patients were still using their enrollment method. Of participants who had discontinued their contraceptive method between 1 and 3

months (n=103), approximately three-quarters (n=77) indicated a method-related reason for discontinuation and thus were coded as “completely dissatisfied” at 3 months.

Table 3 shows contraceptive satisfaction at 3 months among patients for whom satisfaction at 3 months could be determined (n=1853). Approximately half of participants (52.1%) were “completely satisfied,” and approximately one-third of participants (30.7%) were “somewhat satisfied.” Moreover, 4% were “neither satisfied nor dissatisfied,” 6.9% were “somewhat dissatisfied.” Notably, 6%—primarily patients who had discontinued between 1 and 3 months—were classified as “very dissatisfied.”

Multivariable analyses predicting contraceptive satisfaction at 3 months

Table 4 presents results from ordered logistic regression analyses, which modeled the association between covariates and contraceptive satisfaction at 3 months, net of control variables at enrollment. Here, proportional odds ratios (ORs) larger than 1 represent greater odds of reporting more contraceptive satisfaction. Compared with respondents whose contraceptive method “made their sex life a lot worse” throughout the first month, respondents whose method “improved their sex life a lot” had 7.7 times increased odds of greater contraceptive satisfaction at 3 months (95% confidence interval [CI], 4.02–14.60; $P<.0001$), and respondents whose method improved their sex life a “little” had 5.88 times increased odds of greater satisfaction (95% CI, 3.12–11.11; $P<.0001$). Participants whose method did not affect their sex life had 5.10 times increased odds of greater satisfaction (95% CI, 2.72–9.54, $P<.0001$), and those whose method made their sex life a “little” worse had 2.64 times increased odds of greater satisfaction (95% CI, 1.41–4.93; $P<.01$).

Compared with respondents who experienced increased vaginal bleeding, respondents who reported no bleeding (OR, 2.22; 95% CI, 1.61–3.07; $P<.0001$) or less bleeding (OR, 1.56; 95% CI, 1.23–1.97; $P<.0001$) more frequently reported contraceptive satisfaction at 3 months. Participants who experienced increases in the frequency of physical side effects from baseline to 1 month had lowered odds of satisfaction at 3 months ($P<.0001$). No other predictors or covariates were significantly associated with contraceptive satisfaction. Our results were substantively similar when we coded participants who discontinued for method-related reasons as “somewhat dissatisfied” and when we excluded participants who discontinued their method between 1 and 3 months (Supplemental Tables 1 and 2).

Comment

Principal findings

In this longitudinal study of new-start contraceptive users, we found that most patients reported satisfaction with their birth control method at 3 months. Furthermore, we found strong associations between satisfaction and patients’ perceptions of how their method impacted their sex life at 1 month and changes in bleeding and physical side effects—although to a lower degree. Changes in sexual functioning and satisfaction and mood-related side effects were not predictive of contraceptive satisfaction at 3 months.

Results in the context of what is known

This study is one of surprisingly few to focus on contraceptive satisfaction, although this outcome is more person-centered than contraceptive continuation or adherence. Furthermore, the study examined multiple measures of sexual acceptability—a phenomenon surprisingly absent from previous contraceptive research. We innovated on previous research by examining the relationship between sexuality measures and contraceptive satisfaction in a large, real-world cohort of patients starting the method of their choice. More than 80% of participants reported being satisfied with their method at 3 months, and a few—approximately 1 in 16 participants—either reported being dissatisfied (2.0%) or discontinued their contraceptive method because of dissatisfaction before 3 months (4.1%). Moreover, we found that contraceptive users' perceived impact of their method on their sex life in the first month strongly predicted satisfaction at 3 months, whereas mood-related side effects, such as depression, changes in sexual functioning, and sexual satisfaction, did not significantly predict contraceptive satisfaction.

In addition to integrating sexual acceptability into the literature on person-centered contraceptive care—and demonstrating that perceived impact on sex life is a strong predictor of method satisfaction—this study amplifies research demonstrating that efficacy, safety, and side effects are not the only factors that matter to patients in their experiences with contraception.[30,31,39] Previous analyses of these data showed that patients value sexual-related preferences as strongly as safety and side effects[22] and that perceived sexual acceptability of contraception is a strong predictor of continuation.[24,25] Results from this study underscore the importance of patients' sexual experiences of birth control in shaping their likelihood of continuation and their satisfaction with their method over time.

Clinical implications

These sexual effects suggest the need for a potential shift in how medical professionals think of contraception: contraceptives are not just medical products with numerous health benefits; they can also enhance or inhibit people's sex lives. Clinicians may wish to underscore that sexual experiences of contraceptive methods are important and encourage patients to find a method that works for them sexually. Doing so may increase patients' satisfaction with their contraceptive method, improving their overall quality of life.

Research implications

We recommend that future research examine how to address sexual acceptability when providing contraceptive care to patients. Although this quantitative analysis provides strong evidence of the association between sexual acceptability and contraceptive satisfaction, we need research examining how clinicians can better attend to sexuality in contraceptive counseling and how to best support them in these efforts (eg, developing and implementing continuing medical education training on sexual acceptability for contraceptive care professionals). Furthermore, future research should consider whether the relationship between sexual acceptability and contraceptive satisfaction varies by socioeconomic characteristics.

Strengths and limitations

The study strengths includes its large sample size, longitudinal design, inclusion of 6 contraceptive methods (whereas previous studies of contraceptive satisfaction often focused on LARC), and use of multiple validated measures to assess patients' sexual experiences while using contraceptives. Study limitations include the exclusion of some eligible participants to meet the inclusion criteria for these analyses, including those missing values on the outcome variable or primary covariates. Although those excluded participants tended to report somewhat more favorable impacts of their contraceptives on their sex lives, they closely resembled included participants on our other primary covariates, including FSFI-6, NSSS, and MSQ scores.

This cohort's survey arm participants has different characteristics compared with all those served during the initiative, including a preferential selection of IUDs and contraceptive implants in the survey arm compared with all those served.[33] In addition, because the study design included only reversible methods, our sample has a greater proportion of LARC users than the general population of reproductive-aged women, among whom the most common method is female sterilization.[40] Furthermore, we had very small samples of certain contraceptive methods, most notably male condoms. Although only 0.2% of patients selected condoms as their primary contraceptive method, condoms are a vital tool in the dual prevention of unwanted pregnancy and sexually transmitted infections.[41] This low representation of condoms and other behavioral methods was likely because of the study design and the clinic-based recruitment approach. In terms of generalizability, our study population did not include adolescents, whose contraceptive choices may differ from adults.[40] In addition, people in Utah may differ from the average US contraceptive-seeking population; however, Salt Lake City has a more religiously diverse population than Utah overall and is more similar to national demographics. For example, 26% of Salt Lake City residents—and one-third of our sample—are people of color compared with 9% of residents in Utah and 24% of residents in the United States.[42] Finally, the very high levels of satisfaction we observed may reflect the ability of participants to freely select from the full range of contraceptive methods at no cost and to switch or discontinue methods at any time. In settings where contraceptive access is more limited, patients may face cost- and insurance-related barriers to obtaining their preferred method.[18,43,44] Because preferred contraceptive method use is associated with satisfaction,[18] patients who cannot obtain their preferred method may report lower satisfaction with the method they ultimately select.

Conclusions

In this cohort of contraceptive clients who could switch or discontinue methods at any time, findings demonstrated a high degree of contraceptive satisfaction. Contraceptive users' perceptions of how their contraceptive method affected their sex lives over the first month of contraceptive use significantly predicted their satisfaction with their contraceptive method at 3 months. Patients may benefit from finding a contraceptive method that improves their sexual well-being.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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AJOG at a Glance

Why was this study conducted?

This study assessed contraceptive satisfaction among new-start contraceptive users and examined whether sexual acceptability predicted contraceptive satisfaction at 3 months.

Key findings

Most patients (82.8%) were “somewhat” or “completely” satisfied with their contraceptive method at 3 months. Patients whose method made their sex life “a lot better” had nearly 8 times greater satisfaction than those whose method made their sex life “a lot worse.”

What does this add to what is known?

Among new-start contraceptive users, the patients’ sexual experiences with their birth control method were highly associated with contraceptive satisfaction at 3 months, more so than changes in vaginal bleeding, mood-related side effects, or physical side effects.

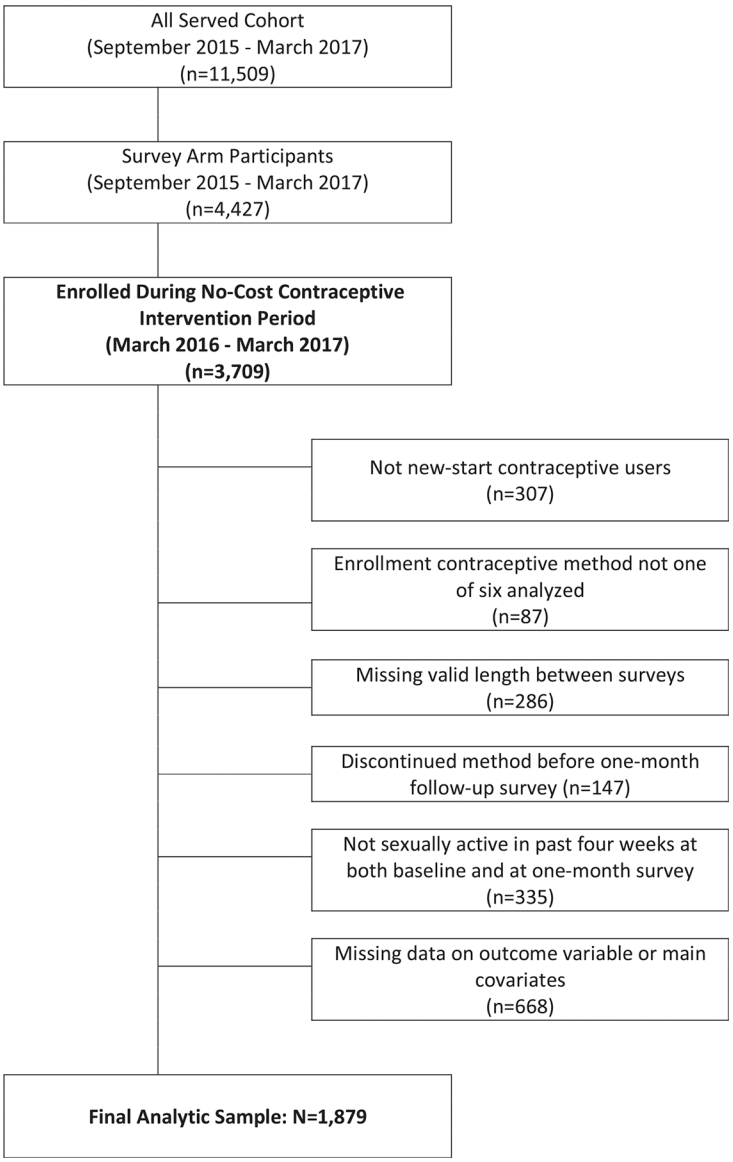

FIGURE. Flow chart of the inclusion criteria for analytical sample

The flowchart depicts our process of moving from the initial study sample to our final analytical sample.

TABLE 1

Percentage distribution of baseline characteristics

Characteristic	n (%)
Age (y)	
18–19	383 (20.4)
20–24	781 (41.6)
25–29	439 (23.4)
≥30	276 (14.7)
Race and ethnicity	
Non-Hispanic White	1249 (66.5)
Hispanic or Latina	359 (19.1)
Non-White, other, non-Hispanic, or missing[a]	271 (14.4)
Education	
High school or less	743 (39.5)
Some college or more	1121 (59.7)
Missing	15 (0.8)
Marital status	
Married	231 (12.3)
Cohabiting or in a committed relationship	981 (52.2)
Actively dating	363 (19.3)
Single	190 (10.1)
Other or missing[b]	114 (6.1)
Percentage of federal poverty level	
≤100	714 (38.0)
101–200	555 (29.5)
201–300	357 (19.4)
≥300	218 (11.6)
Missing	35 (1.9)
Method selected at baseline	

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Implant	435 (23.1)
Copper IUD	292 (15.5)
Levonorgestrel IUD	587 (31.2)
Oral contraceptives	175 (16.0)
3-mo injectable	300 (9.3)
Ring	90 (4.8)
Sexual identity	
Mostly or exclusively heterosexual	1626 (86.5)
Bisexual, mostly homosexual, exclusively homosexual, other, or missing[c]	253 (13.5)
	Mean±SD
WHO Well-Being Index (range 0–25)	16.1 ±4.9

IUD, intrauterine device; *SD*, standard deviation; *WHO*, World Health Organization.

[a] There are 7 respondents missing complete data;

[b] There are 12 respondents missing complete data;

[c] There are 25 respondents missing complete data.

TABLE 2

Sexuality measures, bleeding changes, and side effects, 0 to 1 months

Sexuality measures, bleeding changes, and side effects	
Impact of method on sex life (measured at 1 mo only)	**n (%)**
Has made my sex life a lot worse	43 (2.3)
Has made my sex life a little worse	271 (14.4)
Has had no effect on my sex life	561 (29.9)
Improved my sex life a little	508 (27.0)
Improved my sex life a lot	496 (26.4)
New sexual satisfaction scale (range 20–100)	**Mean (95% CI)**
Average baseline score	75.8 (75.0–76.5)
Average change in score from 0 to 1 mo	−2.1 (−2.8 to −1.3)
Female sexual functioning index-6 (range 5–30)	**Mean (95% CI)**
Average baseline score	23.4 (23.2–23.6)
Average change in score from 0 to 1 mo	−0.39 (−0.63 to −0.15)
Changes in vaginal bleeding (measured at 1 mo only)	**n (%)**
I have had no vaginal bleeding	269 (14.3)
I have had less bleeding than before	481 (25.6)
I have had no change from before	254 (13.5)
I have had more bleeding than before	875 (46.6)
Menstrual symptoms questionnaire: mood-related side effects (range 0–5)[a]	**Mean (95% CI)**
Average baseline score	1.7 (1.6–1.8)
Average change in score from 0 to 1 mo	0.29 (0.22–0.36)
Menstrual symptoms questionnaire: physical side effects (range 0–5)[b]	**Mean (95% CI)**
Average baseline score	1.2 (1.2–1.2)
Average change in score from 0 to 1 mo	0.25 (0.21–0.29)

CI, confidence interval.

[a]Mood-related side effects include feelings of depression or changes in mood;

[b]Physical side effects include headaches, bloating, cramping, diarrhea or constipation, acne, weight gain or loss, and breast tenderness.

TABLE 3

Contraceptive satisfaction at 3 months

	n	%
Contraceptive satisfaction		
Completely satisfied	965	52.1
Somewhat satisfied	569	30.7
Neither satisfied nor dissatisfied	77	4.2
Somewhat dissatisfied	127	6.9
Completely dissatisfied[a]	115	6.2

[a]There are 38 respondents who reported being “completely dissatisfied” at 3 months and 77 respondents who discontinued between 1 and 3 months and cited a methods-related reason for discontinuation.

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TABLE 4

Effects of sexuality measures, bleeding changes, and side effects on contraceptive satisfaction at 3 months[a]

Sexuality measures, bleeding changes, and side effects	Unadjusted OR	95% CI	Significance	Adjusted OR	95% CI	Significance
	1-point increase in satisfaction at 3 mo			1-point increase in satisfaction at 3 mo		
Impact of contraceptive method on sex life at 1 mo						
Has made my sex life a lot worse	Ref	—		Ref	—	
Has made my sex life a little worse	3.14	(1.71–5.80)	***	2.64	(1.41–4.93)	**
Has had no effect on my sex life	6.60	(3.63–12.01)	***	5.10	(2.72–9.54)	***
Improved my sex life a little	7.71	(4.23–14.05)	***	5.88	(3.12–11.11)	***
Improved my sex life a lot	10.92	(5.96–20.02)	***	7.66	(4.02–14.60)	***
Change in FSFI from 0 to 1 mo	1.04	(1.02–1.06)	***	0.99	(0.97–1.01)	
Change in NSSS from 0 to 1 mo	1.01	(1.01–1.02)	***	1.01	(1.00–1.01)	
Changes in bleeding reported at 1 mo						
I have had more vaginal bleeding than before	Ref	—		Ref	—	
I have had no change in vaginal bleeding	1.21	(.92–1.59)		1.24	(.92–1.67)	
I have had less vaginal bleeding than before	1.55	(1.25–1.92)	***	1.56	(1.23–1.97)	***
I have had no vaginal bleeding	1.67	(1.27–2.19)	***	2.22	(1.61–3.07)	***
Change in mood-related side effects from 0 to 1 mo[b]	0.87	(.82–.92)	***	0.96	(0.89–1.04)	
Change in physical symptoms from 0 to 1 mo[c]	0.74	(.66–.82)	***	0.80	(0.70–0.91)	**

*= $P<.05$.

**= $P<.01$.

***= $P<.001$.

CI, confidence interval; *FSFI*, Female Sexual Functioning Index; *NSSS*, New Sexual Satisfaction Scale; *OR*, odds ratio; *Ref*, reference.

[a]Unadjusted models include only design-related variables (site of enrollment in study, period of enrollment in study, and average length between survey responses in days). Adjusted models include these variables in addition to age, race and ethnicity, relationship status, federal poverty level category, contraceptive method, sexual orientation, and general well-being and the other variables in the table;

[b]Mood-related side effects include feelings of depression or changes in mood;

[c]Physical symptoms include headaches, bloating, cramping, diarrhea or constipation, acne, weight gain or loss, and breast tenderness.