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Same-Day Intrauterine Device Placement is Rarely Complicated by Pelvic Infection

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Authors
Papic, Melissa
Wang, Nan
Parisi, Sara M
et al.

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Same-Day IUD placement is rarely complicated by pelvic infection

Melissa Papic, BS[1,3], **Nan Wang, BS**[2], **Sara M. Parisi, MS, MPH**[1,3], **Erin Baldauf, MEd**[1,4], **Glenn Updike, MD**[4], and **Eleanor Bimla Schwarz, MD, MS**[5]

Melissa Papic: mjp122@pitt.edu; Nan Wang: naw44@pitt.edu; Sara M. Parisi: smp101@pitt.edu; Erin Baldauf: Baldaufek@upmc.edu; Glenn Updike: updigm@mail.magee.edu; Eleanor Bimla Schwarz: ebschwarz@ucdavis.edu

[1]University of Pittsburgh, Department of Medicine, Center for Research on Health Care, 230 McKee Place, Suite 600, Pittsburgh, PA 15213, (Ph) 412-692-2656, (Fax) 412-692-4838

[2]University of Pittsburgh, School of Medicine

[3]University of Pittsburgh, Department of Epidemiology, (Ph) 412-383-2635, (Fax) 412-383-1121

[4]University of Pittsburgh, Department of Obstetrics, Gynecology & Reproductive Sciences, 300 Halket Street, Pittsburgh, PA 15213, (Ph) 412-641-3333, (Fax) 412-641-4391

[5]University of California, Davis, Department of Medicine, 4150 V Street, PSSB 2400, Sacramento, CA 95817, (Ph) 916-734-5453 (Fax) 916-734-2732

Abstract

PURPOSE—To compare rates of pelvic inflammatory disease (PID) among women who did and did not receive an intrauterine device (IUD) the day they sought emergency contraception (EC) or pregnancy testing.

METHODS—Women, 15–45 years of age, who sought EC or pregnancy testing from an urban family planning clinic completed surveys at the time of their clinic visit (August 22, 2011-May 30, 2013) and three months after their clinic visit. The surveys assessed contraceptive use and symptoms, testing, and treatment for sexually transmitted infections (STI) and pelvic inflammatory disease (PID). We reviewed the medical records of participants who reported IUD placement within 3 months of enrollment and abstracted de-identified electronic medical record

Corresponding Author: Eleanor Bimla Schwarz, MD, MS, Professor of Medicine, University of California, Davis, Department of Medicine, 4150 V Street, PSSB 2400, Sacramento, CA 95817, (Ph) 916-734-5453 (Fax) 916-734-2732, ebschwarz@ucdavis.edu.

Authors' Descriptions

Papic: Data Manager, Department of Epidemiology, University of Pittsburgh. Women's health, maternal and child health research.
Wang: Medical Student, University of Pittsburgh School of Medicine
Parisi: Data Analyst, Department of Epidemiology, University of Pittsburgh Women's health, maternal and child health research.
Baldauf: Research Coordinator, Center for Research on Health Care, University of Pittsburgh. Women's health research
Updike: Medical Director, Magee-Womens Hospital Outpatient Clinic. Assistant Professor, Department of Obstetrics, Gynecology, &Reproductive Sciences, University of Pittsburgh. Women's health research
Schwarz: Professor of Medicine, University of California, Davis Women's health, maternal and child health research.

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(EMR) data on all women who sought EC or pregnancy testing from the study clinic during the study period.

FINDINGS—During the study period, 1,060 women visited the study clinic; 272 completed both enrollment and follow-up surveys. Among survey completers with same-day IUD placement, PID in the 3 months following enrollment was not more common [1/28; 3.6% (95% CI 0–10.4%)] than among women who did not have a same-day IUD placed [11/225; 4.9% (95% CI 2.7%-8.6%)], p=0.71. Chart review and EMR data similarly showed that rates of PID within 3 months of seeking EC or pregnancy testing were low whether women opted for same-day or delayed IUD placement.

CONCLUSIONS—Same-day IUD placement was not associated with higher rates of PID. Concern for asymptomatic STI should not delay IUD placement, and efforts to increase uptake of highly effective reversible contraception should not be limited to populations at low risk of STI.

Keywords

Intrauterine Contraception; Copper IUD; Emergency Contraception; Pelvic Inflammatory Disease (PID)

Introduction and Background

Rates of unintended pregnancy remain significantly higher in the US than in other developed countries(Singh, Sedgh, & Hussain, 2010). One factor contributing to this public health challenge is the underuse of intrauterine devices (IUD) (Finer, Jerman, & Kavanaugh, 2012; United Nations, 2011). Rates of IUD use in the US are lower than in many industrialized countries due at least partly to limitations in both patient and provider knowledge of the safety and effectiveness of IUDs (Biggs, Harper, Malvin, & Brindis, 2014; Harper et al., 2012; Hladky, Allsworth, Madden, Secura, & Peipert, 2011). While modern IUDs bear little resemblance to the infamous Dalkon Shield (which was taken off the US market in 1974 due to concerns that it caused pelvic infections), misperceptions of the safety of modern IUDs persist. Although IUD placement may move bacteria from the lower genital tract through the cervix into the upper genital tract, most bacteria are cleared from the endometrium within 48 hours of IUD placement (Mishell & Moyer, 1969). Thus, current CDC recommendations state that STI screening is not required prior to IUD placement (Division of Reproductive Health, Health Promotion, & Prevention, 2013); rather, women at risk of STI should be screened and promptly treated if infection is found. Nonetheless, a recent study of family planning clinic directors found that 20% inaccurately believed women with a history of STI in the prior two years or a history of pelvic inflammatory disease (PID) were not candidates for an IUD(Biggs et al., 2014). Similarly, another recent study found that only 34% of physicians would place an IUD for a woman with a history of a STI in the prior 2 years (Harper et al., 2012). In addition, many clinicians require that women desiring IUD placement make at least two office visits: an STI screening visit (or an IUD prescribing visit, if the clinic does not stock IUDs), followed by a second “delayed” visit for IUD placement, which is often up to 2 weeks later (Biggs, Arons, Turner, & Brindis, 2013). This two-visit requirement can be an obstacle to IUD use (Bergin, Tristan, Terplan, Gilliam, & Whitaker, 2012), particularly for women with limited financial resources and/or who face

transportation challenges. In one study, only about half those who requested IUDs returned for the second IUD placement visit (Bergin et al., 2012). In addition, requiring two visits for IUD placement may preclude the use of an IUD as emergency contraception. This is unfortunate as the copper IUD is the most effective form of emergency contraception available (Cheng, Che, & Gulmezoglu, 2012; Cleland, Zhu, Goldstuck, Cheng, & Trussell, 2012).

Given the benefits of eliminating barriers to IUD use and to avoiding multiple visits for IUD placement, especially for women seeking EC, it is critical to understand the safety of same-day IUD placement for women who may have recently been exposed to a STI. We, therefore, studied rates of upper genital tract infections following same-day IUD placement for women requesting emergency contraception or walk in pregnancy testing from an urban family planning clinic (which, like many family planning clinics, serves a population with an 8% prevalence of chlamydia(Centers for Disease Control and Prevention, 2011), a prevalence considerably higher than that of previously studied managed care populations (Sufrin et al., 2012)).

Methods

Between August 22, 2011 and May 30, 2013, women aged 15–45 years who were seeking walk-in pregnancy testing or emergency contraception (EC) from a Title X funded clinic in Pittsburgh, PA were asked to complete surveys and offered same-day placement of an IUD as part of a study that has been previously described (Schwarz E.B. et al., 2014). Briefly, clinic patients were invited to participate in the study by clinic staff. Willing participants were referred to an onsite research assistant who obtained written informed consent and administered surveys in a private space within the clinic. Women received a token of appreciation (e.g. lip gloss or nail polish) on the day of their clinic visit and $10 for completing follow-up surveys.

All women served by this clinic received scripted contraceptive counseling which highlighted the effectiveness of IUDs and implants (Schwarz E.B. et al., 2014). Cost was not a barrier to IUD use due to the availability of Title X funding (and when needed IUDs donated by a private foundation) which allow the clinic to stock IUDs onsite. The option of same-day placement of either a copper or levonogestrel IUD was limited to women who had no evidence of cervicitis upon pelvic exam (which was only required if women expressed interest in IUD placement). All women seeking “walk in” pregnancy testing or EC had their urine tested for Chlamydia and Gonorrhea on the day of their clinic visit. Test results were available within 24 hours and nursing staff promptly contacted all infected patients to facilitate treatment.

Surveys completed on the day of women’s clinic visit assessed STI testing in the previous 12 months, birth control methods used in the past 3 months, pregnancy history, and sociodemographic characteristics. Participants were also asked for permission to link their survey responses to their medical record data, which 96% granted. A 3-month follow-up survey, [completed, as was convenient for the participant, via telephone (43%), email/online link (50%), or in-person (7%)] assessed symptoms, diagnosis, and treatment of STI or PID,

as well as participants' contraceptive use following enrollment. Signs and symptoms potentially indicating PID were assessed by asking, "in the past three months, did you experience any of the following symptoms: pelvic pain, pelvic tenderness, or unusual vaginal discharge, with or without fever?"

Chart review was performed for those survey participants who reported IUD placement within 3 months of visiting the clinic using a pilot-tested data abstraction tool. Progress notes were reviewed for documentation of STI signs/symptoms (i.e., pelvic pain, cervical motion tenderness, vaginal discharge), testing, diagnosis (i.e., chlamydia or gonorrhea, which increases risk of PID(Sweet, 2012), or trichomoniasis, which often accompanies chlamydial infection(Swartzendruber, Sales, Brown, Diclemente, & Rose, 2014)), and treatment of PID (with ceftriaxone and doxycycline for cervical motion tenderness) during three time periods: prior to IUD placement, on the day of IUD placement, and 3 months post IUD placement. The timing of any IUD removal or expulsion was also noted.

On June 9, 2013, de-identified EMR data were abstracted for all women who had been registered for a "walk-in" visit for either "EC" or "pregnancy testing" during the study period, regardless of whether or not they completed a survey. Medication, laboratory, procedure, and diagnosis codes were used to identify women's contraceptive use, testing for and/or diagnosis with PID (ICD-9 codes 614.0–916.9) or STI (codes available on request). Women with less than 3 months of follow-up medical record data available since their initial clinic visit were excluded from this analysis as there was no way of knowing whether or not they would develop PID within 3 months of their visit. In addition, the few women who visited the clinic seeking EC or pregnancy testing more than once during the study period, contributed only data from their first walk-in visit to this analysis (as we assumed that data from their subsequent visits would be dependent on data from their first visit).

We categorized survey respondents into 3 mutually-exclusive groups based on women's contraceptive use within three months of enrollment, women who had: (a) "same-day" IUD placement at the time of their enrollment visit, (b) "delayed" IUD placement within 3 months of enrollment, or (c) no IUD placement within 3 months of enrollment. When examining EMR data, we considered 4 groups of women, those who had: (a) "same-day" IUD placement at the time of seeking pregnancy testing or EC, (b) "delayed" IUD placement which required two or more visits within 3 months of seeking pregnancy testing or EC, (c) used hormonal contraceptives (i.e., oral contraceptives, a vaginal ring, contraceptive patch, a subdermal implant or injectable contraceptive) within 3 months of seeking pregnancy testing or EC, or (d) used no prescription contraception within 3 months of seeking pregnancy testing or EC.

We used chi-squared tests and Fisher Exact tests when appropriate to discern the significance of differences between groups in terms of demographic characteristics and in symptoms, testing, diagnosis and treatment for STI and PID. Our sample size limited the power to detect small differences between groups and precluded adjustment for potential confounders. We did not conduct any post-hoc tests for multiple comparisons. All analyses were performed using Stata 13.0 (StataCorp, College Station, TX, USA). This study was approved by the [IRB name blinded by *WHI* editors for peer review].

Results

Enrollment surveys were completed by 35% (366/1,060) of eligible women. EMR data indicated that women who did and did not agree to complete surveys were of similar age, race and parity. Follow-up surveys were completed by 74% of participants, producing an analytic sample of 272 unique women. There were no significant differences between women who did and did not complete follow-up surveys in terms of age, race, marital status, education, or income. The mean age of women who completed surveys was 22.5 years (standard deviation (SD) +/- 5.0 years), with a majority (73%) of participants identifying as African American. Most (55%) reported being in a committed relationship. Overall, 10% (n=28) of women who completed follow-up surveys reported “same-day” IUD placement, 6% (n=17) reported delayed insertion of an IUD, and 83% (n=227) reported using some other method or no contraception in the three months following study enrollment [56% (n=128) hormonal birth control, 30% (n=68) use of condoms, and 14% (n=31) no birth control]. Among surveyed participants, one woman was not able to receive a same-day IUD, due to cervicitis upon exam. Time constraints also prevented some women from obtaining a desired same-day IUD; while some women were asked to only wait a few moments, others had to wait for more than an hour for a clinician to be available to place a desired IUD. As shown in Table 1, women who opted for same-day IUD placement were slightly older and more likely to be white, than other women. Most participants (64%) had previously been pregnant, and were seeking pregnancy testing (73%) the day they enrolled in this study; 27% were seeking EC. Most (80%) reported STI testing in the past year, with 52% reporting testing within three months of their clinic visit. Women who received a same-day IUD were not more likely to have been tested in the last year for STI than those who did not receive an IUD (86% same-day IUD vs. 81% no IUD, p=0.55).

Three months following study enrollment, survey data indicated that 42% of participants reported STI testing since enrollment, and 16% reported treatment for a STI, with no significant difference by whether or not women had same-day IUD placement (Testing: 36% same-day IUD vs. 43% no IUD, p=0.44; Treatment: 14% same-day IUD vs. 17% no IUD, p=1.00, Table 2). Similarly, there was no significant difference in condom use within 3 months of enrollment (57% Same-day IUD vs. 60% no IUD, p=0.78). Table 2 provides further detail on rates of STI testing and treatment among those who did not receive a same-day IUD. One woman who received a same-day IUD reported on her follow-up survey having been diagnosed with PID within 3 months of IUD placement (3.6 %, 95% CI 0.0–10.4%); in contrast, two participants (11.8%, 95% CI 0.0–27.1%) who had an IUD placed within 3 months of enrollment and 11 women (4.9%, 95% CI 2.7–8.6%) who used other contraceptives reported a PID diagnosis within 3 months of study enrollment. There was no significant difference in the proportion of women diagnosed with PID who received a same-day IUD when compared to women who received no IUD within 3 months (3.6% same-day IUD vs. 4.9% no IUD, p=1.00). Symptoms potentially concerning for PID (pelvic pain in prior 3 months, Table 2) were more commonly reported by women who had same-day IUD placement (50%) than those who did not have an IUD placed at any point (27%), p=0.01; however, such symptoms were not more commonly reported by women who had same-day than delayed IUD placed (50% vs. 44%, p=0.69).

Medical record review of participants who reported receiving an IUD within 3 months of study enrollment identified no significant differences between women who received same-day or delayed IUD placement in terms of histories of STI or PID, either prior to or after their enrollment visit (Table 3). Within three months of IUD placement, there were no significant differences in reports of pelvic pain, testing, diagnosis or treatment of STI or PID (Table 3). When compared to women's survey data, medical record review identified two additional women treated for PID within 3 months of receiving a same-day IUD [2/33, 6% (95% CI 0%-21%)]. One of these woman developed PID after testing negative for *Chlamydia* the day her IUD was placed. The other tested positive for *Chlamydia trachomatis* on the day her IUD was placed and had antibiotics sent to her pharmacy within one week of IUD placement. Two weeks after IUD placement, she visited the emergency department for pelvic pain at which time documentation noted no cervical motion or adnexal tenderness and she was given ibuprofen without antibiotics. Three weeks after IUD placement, she was again seen in clinic, at which time she had cervical motion tenderness and received antibiotics for PID.

Three months of EMR data following women's enrollment clinic visit was available for 89% (947/1060) of visits made during the study period, because on the day EMR data was abstracted, it had been less than 3 months since 11% of visits had occurred. Of these 947 women, 3% (n=31) received same-day IUD placement, 4% (n=40) returned for delayed IUD placement, 33% (n=312) received a prescription for hormonal contraception, and 59% (n=564) had no prescription contraception in their EMR. Like in the survey data, codes for pelvic pain were more common among women who had IUDs placed (Table 4), but differences between same-day and delayed IUDs were not significant (48.4% same-day IUDs vs. 37.5% delayed IUDs, p=0.36). Within 3 months of their clinic visit, EMR data indicate that 15 (1.6%, 95% CI=0.9%-2.6%) clinic patients were diagnosed with PID. Among women who received a same-day IUD, 2 women (6.5%, 95% CI 0.8–21.4%) were diagnosed with PID within 3 months of IUD placement; similarly, among women who had delayed IUD placement, 2 women (5.0%, 95% CI 0.6–16.9%) were diagnosed with PID within 3 months of their initial visit to the study clinic. Six women who used hormonal contraception (1.9%, 95% CI 0.7–4.1%) and 5 women who used no prescription contraception, (0.9%, 95% CI 0.3–2.2%) received a PID diagnosis within 3 months of their clinic visit.

However, EMR documented cases of PID did not consistently match what women reported on their surveys; 4 of those with EMR documented PID did not report PID when surveyed and 9 who reported PID when surveyed had no documentation of PID in their medical record. In combining data from all sources, we identified 27 unique women among the 947 women served by this clinic (2.9%, 95% CI: 2.0%-4.1%) who had evidence of PID within 3 months of their index clinic visit. Among these 27 women, 22 had not received an IUD, 3 received same-day IUDs, and 2 delayed IUD placement.

Conclusions and Discussion

In this observational study of women seeking EC or pregnancy testing from an urban family planning clinic, we found that same-day IUD placement with STI testing was not associated

with higher rates of STI or PID in the next 3 months compared to women who did not receive same-day IUD placement. This supports current recommendations that STI screening is not required prior to IUD placement (Division of Reproductive Health et al., 2013), but that women at risk of STI should be screened and promptly treated. Our results are also consistent with a prior study of a managed care population, which reported that screening for STI prior to IUD placement did not affect subsequent rates of PID (Sufrin et al., 2012). Of note, although the population we studied was at higher risk of STI than many, the absolute risk of PID following IUD placement was less than 4%. In comparison, a Brazilian study in which 19 women had IUDs inadvertently placed on a day they tested positive for chlamydia found only 2 women (10.5%) became symptomatic (Faundes et al., 1998). In other studies of women with STIs at the time of IUD placement, only a minimal increase in PID has been seen (Farley, Rosenberg, Rowe, Chen, & Meirik, 1992; Hubacher & Fortney, 1999; Hubacher, Lara-Ricalde, Taylor, Guerra-Infante, & Guzman-Rodriguez, 2001; Mohllajee, Curtis, & Peterson, 2006; Morrison, Turner, & Jones, 2009).

Although efforts to clarify the relationship between IUDs and PID are fraught with challenges (Hubacher, Grimes, & Gemzell-Danielsson, 2013), we used a combination of survey data and medical record data to provide as much clarity as possible regarding when symptoms and testing resulted in diagnosis and treatment. Although women using IUDs report pelvic pain more frequently than women using other contraception, this is not always a sign of infection. As regular use of condoms is the best way to protect women from STI and PID, it is important to note that our survey data indicates that same-day IUD placement did not reduce rates of condom use more than use of other prescription contraceptives. In particular, women who delayed IUD placement were not more likely than women who had same-day IUD placement to report condom use. Although continued encouragement of condom use is warranted for all populations at high risk of STI, when pregnancy is not desired, more effective contraception should be simultaneously encouraged, as typically 18% of women who depend solely on male condoms for contraception will experience an unintended pregnancy within their first year of use, compared to <1% of women using an IUD or implant (Trussell, 2011).

While cost was generally not a barrier for women desiring same-day IUD placement (given Title X and foundation funding for IUDs), time constraints limiting women’s ability to wait until a clinician was available to place an IUD prevented some women from receiving desired same-day placement.

Our findings must be interpreted in light of certain limitations. First, whether or not an IUD was placed depended on patient interest in an IUD; thus, it is possible that women who felt they were at high risk for STI may have avoided same-day IUD placement. In addition, our sample size precluded adjustment for potential confounders and post-hoc tests for multiple comparisons, and limits our power to detect small differences between groups. Furthermore, the definition of STI among our data sources may have varied, as participants were not asked about specific infections (e.g., chlamydia or gonorrhea) on the survey, and symptoms that may have simply been due to vaginitis or vaginosis may have been included among those we conservatively considered potentially concerning for PID. Further, there were discrepancies between survey and medical record data reports of PID and STI. Survey data

may be subject to social desirability bias. However, EMR and chart review data may be incomplete if women had an IUD inserted or PID diagnosed outside of our health system or clinicians were not diligent in their documentation. Nonetheless, estimates of rates of PID in both the electronic medical record and survey data were similarly low, and even when we combined all available data, were relatively low for this high-risk population. Finally, as the studied clinic routinely screens for STI and strives to consistently deliver prompt antibiotic therapy, these findings may not be generalizable to settings in which healthcare is more fragmented.

Implications for Practice and/or Policy

In conclusion, the benefits of offering women same-day IUD placement with STI testing when they seek EC or pregnancy testing appear to outweigh potential risks, as we did not appreciate significant differences in rates of STI or PID following same-day placement of an IUD. As emergency placement of a copper IUD is the most effective form of EC (Cheng et al., 2012; Cleland et al., 2012), same-day IUD placement should be routinely offered to all women seeking EC from family planning clinics. More broadly, women at risk of unintended pregnancy should be provided with the contraceptive of their choice without delay. Making same-day placement of desired highly effective reversible contraception the standard of care for all women will require addressing barriers to same-day contraceptive service delivery, including provider attitudes, clinician scheduling, and perhaps most importantly the ability for clinics to stock contraceptive devices on site.

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Table 1

Demographic and reproductive characteristics of survey participants (N=272)

Type of contraceptive used between initial visit and 3 month follow up	IUD placed same day n=28	Delayed placement of IUD n=17	No IUD within 3 Months n=227	P value (Same Day vs. Delayed)	p-values (Same Day IUD vs. No IUD)
Age (n=272)	24.8	23.6	22.3	0.49	0.014
Race (n=270)				0.36	0.19
Black	57.1% (16)	58.8% (10)	76.4% (172)		
White	21.4% (6)	5.9% (1)	12.0% (27)		
Biracial	17.9% (5)	17.7% (3)	8.9% (20)		
Hispanic	3.6% (1)	11.8% (2)	0.4% (1)		
Other	0.0%	5.9% (1)	2.2% (5)		
Marital status (n=267)				0.53	0.21
Single	42.9% (12)	47.1% (8)	41.9% (93)		
Committed	50.0% (14)	52.9% (9)	56.3% (125)		
Married	7.1% (2)	0.0%	1.8% (4)		
Education (n=270)				0.22	0.17
8th grade or less	0.0%	0.0%	1.8% (4)		
Some High School	3.6% (1)	23.5% (4)	22.7% (51)		
High School Diploma/GED	50.0% (14)	35.3% (6)	38.7% (87)		
Some college	39.3% (11)	35.3% (6)	32.4% (73)		
4 year college degree	7.1% (2)	5.9% (1)	4.4% (10)		
Household income (n=168)				0.55	0.92
Less than $5,000	27.8% (5)	21.4% (3)	27.2% (37)		
$5,000 – $20,000	50.0% (9)	42.9% (6)	56.6% (77)		
$20,000 – $50,000	16.7% (3)	35.7% (5)	12.5% (17)		
More than $50,000	5.6% (1)	0.0%	3.7% (5)		
Prior Pregnancy (n=266)	75.0% (21)	58.8% (10)	62.4% (138)	0.26	0.19
Prior birth (n=266)	67.9% (19)	58.8% (10)	44.8% (99)	0.54	0.02
Prior Unintended (n=261)	53.6% (15)	47.1% (8)	41.2% (89)	0.67	0.21
Abortion (n=262)	42.9% (12)	29.4% (5)	32.7% (71)	0.37	0.51
Ectopic (n=262)	7.1% (2)	0.0% (0)	4.2% (9)	0.26	0.47

Type of contraceptive used between initial visit and 3 month follow up	IUD placed same day n=28	Delayed placement of IUD n=17	No IUD within 3 Months n=227	P value (Same Day vs. Delayed)	p-values (Same Day IUD vs. No IUD)
STI testing prior to visit					
Last 12 months (n=261)	85.7%(24)	64.7%(11)	81.0% (175)	0.10	0.55
Last 3 months (n=258)	57.1% (16)	35.3% (6)	52.1% (111)	0.16	0.62
Birth control in 3 months prior to enrollment (n=272)*					
Barrier	71.4% (20)	64.7% (11)	56.8% (129)	0.64	0.14
Pills	7.1% (2)	5.9% (1)	15.0% (34)	0.87	0.26
Ring/Patch	3.6% (1)	5.9% (1)	6.6% (15)	0.72	0.53
Shot	3.6% (1)	23.5% (4)	17.2% (39)	0.04	0.06
IUD	7.1% (2)	5.9% (1)	2.2% (5)	0.87	0.13
EC	17.9% (5)	11.8% (2)	4.0% (9)	0.59	0.002
Withdrawal	25.0% (7)	35.3% (6)	15.9% (36)	0.46	0.22
No birth control	53.7% (15)	58.8% (10)	58.6% (133)	0.73	0.61
EC use, lifetime (n=256)	71.4% (20)	50.0% (8)	37.3% (79)	0.16	0.001
Reason for visit (n=272)					
Pregnancy Testing	28.6% (8)	58.8% (10)	79.3% (180)	0.05	<0.001
Emergency Contraception	71.4% (20)	41.2% (7)	20.7% (47)		

*Women could report more than one method; therefore percentages do not add to 100.

This table used chi-square tests to measure differences between groups

Table 2

Effect of IUD use on PID within 3-months of enrollment, survey data (N=272)

	Same-day IUD % (n) [95% CI] n=28	**Delayed IUD placement % (n) [95% CI] n=17**	**No IUD within 3 months % (n) [95% CI] n=227**	**P value (Same-day vs. Delayed IUD)**	**P value (Same-Day IUD vs. No IUD)**
PID diagnosis in past 3 months (n=270)	3.6 % (1) [0.0–10.4%]	11.8% (2) [0.0–27.1%]	4.9% (11) [2.7–8.6%]	0.54*	1.00*
Pelvic pain in past 3 months (n=270)	50.0%(14) [31.5–68.5%]	43.8%(7) [19.4–68.1%]	26.6% (60) [21.2–32.7%]	0.69	0.02
Tested for an STI in past 3 months for any reason (n=269)	35.7% (10) [18.0–53.5%]	35.3% (6) [12.6–58.0%]	43.3% (97) [37.0–49.9%]	0.98	0.44
Tested for an STI if reported pelvic pain (n=81)	42.9% (6) [16.9–68.8%]	28.6% (2) [0–62.0%]	65.0% (39) [52.3–75.9%]	0.53	0.13
Treated for an STI in the past 3 months whether or not tested (n=269)	14.3% (4) [1.3–27.2%]	5.9% (1) [0–17.1%]	17.0% (38) [12.6–22.5%]	0.64*	1.00*
Treated for STI if tested for STI (n=110)	40.0% (4) [9.6–70.4%]	16.7% (1) [0–46.5%]	36.2% (34) [27.2–46.3%]	0.59*	1.00*
Condoms in 3 months following enrollment (n=272)	57.1% (16) [38.8–75.5%]	52.9% (9) [29.2–76.7%]	59.9% (136) [53.4–66.1%]	1.00*	0.78
Most effective contraceptive since enrollment					
IUD	100% (28)	100% (17)	-		
Hormonal	-	-	56.4% (128)		
Condoms	-	-	30.0% (68)		
None	-	-	13.7% (31)		

*Fisher's exact p-value reported when cell values <5, in all other cases chi-square tests were used.

Table 3

Chart review data for participants who completed surveys and reported IUD placement within 3 months of enrollment (n=51)

	Same-Day IUD placement (n=33)	Delayed IUD placement (n=18)	*P* value*
History, prior to IUD placement, of			
STI Testing in preceding 12 months	70.0% (23)	83.3% (15)	0.35
STI diagnosis ever	48.5% (16)	55.6% (10)	0.63
At most recent testing, STI diagnosis	9.1% (3)	11.1% (2)	1.00
PID diagnosis ever	9.1%% (3)	0.0% (0)	0.54
IUD use ever	21.2% % (7)	11.1% (2)	0.75
At time of IUD placement			
STI infection	3.0% (1)	0.0% (0)	0.54
If infection, received treatment	100% (1)	-	-
Received a copper IUD	87.9% (29)	44.4% (8)	0.008
Within 3 months of IUD placement:			
PID diagnosis	6.1% (2)	0.0% (0)	0.53
Pelvic pain brought to clinical attention	33.3% (11)	27.8% (5)	0.74
Tested for an STI	30.3% (10)	38.9% (7)	0.52
STI diagnosis	9.1% (3)	0.0% (0)	0.30
Treated for an STI	12.1% (4)	0.0% (0)	0.28

STI=sexually transmitted infection; those considered here include Chlamydia and/or Gonorrhea and/or Trichomoniasis

* Fisher's exact p-value reported when cell values <5; in all other cases chi-square tests were used.

Table 4

EMR data on PID and pelvic pain within 3-months following visit for EC or walk-in pregnancy testing (N=947)

	Contraceptive use in 3 months following index clinic visit*			
	Same-day IUD placement % (n) [95% CI] n=31**	**Delayed IUD placement % (n) [95% CI] n=40**	**Hormonal method***** **% (n) [95% CI] n=312**	**No prescription method****** **% (n) [95% CI] n=564**
PID diagnosis	6.5% (2) [0.8–21%]	5.0% (2) [0.6–16.9%]	1.9% (6) [0.7–4.1%]	0.9% (5) [0.3–2.1%]
Pelvic pain	48.4% (11) [30.2–66.9%]	37.5% (15) [22.7–54.2%]	21.8% (68) [7.3–26.8%]	17.2% (97) [14.2–20.6%]

* Women with a prescription for more than one method within 3 months (12%) were considered to be using the most effective of their contraceptive methods. No significant difference were found between groups using Fisher's exact p-value reported when cell values <5 and chi-square tests in all other cases.

** 3 women who had same-day IUDs placed less than 3 months before we abstracted had

*** Includes oral contraceptive pills, patch, ring, shot, emergency contraception, and implant.

**** Includes women who using condoms, rhythm, withdrawal, spermicide or no method.