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

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A B S T R A C T

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 to 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, to May 30, 2013) and 3 months after their clinic visit. The surveys assessed contraceptive use and symptoms, testing, and treatment for sexually transmitted infections (STI) and PID. We reviewed the medical records of participants who reported IUD placement within 3 months of enrollment and abstracted de-identified electronic medical record (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 after 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%; $p = .71$). 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 the uptake of this highly effective reversible contraception should not be limited to populations at low risk of STI.

Rates of unintended pregnancy remain significantly higher in the United States than in other developed countries (Singh, Sedgh, & Hussain, 2010). One factor contributing to this public health challenge is the underuse of intrauterine devices (IUDs; Finer, Jerman, & Kavanaugh, 2012; United Nations Department of Economic and Social Affairs, Population Division, 2011). Rates of IUD use in the United States are lower than in many industrialized countries owing 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). Although modern IUDs bear little resemblance to the infamous Dalkon Shield (which was taken off the U.S. market in 1974 owing 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 recommendations from the U.S. Centers for Disease Control and Prevention state that sexually transmitted infection (STI) screening is not required before IUD placement (Division of Reproductive Health, Health Promotion, & Prevention, 2013); rather, women at risk of STI should be

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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 2 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 (EC). This is unfortunate; the copper IUD is the most effective form of EC 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 after same-day IUD placement for women requesting EC 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 to 45 years who were seeking walk-in pregnancy testing or EC from a Title X–funded clinic in Pittsburgh, Pennsylvania, were asked to complete surveys and offered same-day placement of an IUD as part of a study that has been described previously (Schwarz 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 et al., 2014). Cost was not a barrier to IUD use owing 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 on a pelvic examination (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 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 after enrollment. Signs and symptoms potentially indicating PID were assessed by asking, "In the past 3 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, and vaginal discharge), testing, diagnosis (i.e., chlamydia or gonorrhea, which increase 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: Before IUD placement, on the day of IUD placement, and 3 months after 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 because 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 (because we assumed that data from their subsequent visits would depend on data from their first visit).

We categorized survey respondents into three mutually exclusive groups based on women's contraceptive use within 3 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 four 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 χ^2 and Fisher exact tests as 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