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Determinants of intrauterine contraception provision among US family physicians: a national survey of knowledge, attitudes and practice☆,☆☆

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Abstract

Background: Poor contraception adherence contributes to unintended pregnancy. Intrauterine contraception (IUC) is user-independent thus adherence is not an issue, yet few US women use IUC. We compared family physicians (FPs) who do and do not insert IUC in order to ascertain determinants of inserting IUC.

Study design: We surveyed 3500 US FPs. The primary outcome variable was whether a physician inserts IUC in their current clinical practice. We also sought to describe their clinical practice with IUC insertions.

Results: FPs who insert IUC had better knowledge about IUC (adjusted OR 1.85, 95% CI 1.32–2.60), more comfort discussing IUC (adjusted OR 2.35, 95% CI 1.30–4.27), and were more likely to believe their patients are receptive to discussing IUC (adjusted OR 2.96, 95% CI 2.03–4.32). The more IUC inserted during residency, the more likely to insert currently (adjusted OR 1.44, 95% CI 1.12–1.84). Only 24% of respondents inserted IUC in the prior 12 months.

Conclusions: US FPs have training and knowledge gaps, as well as attitudes, that result in missed opportunities to discuss and provide IUC for all eligible patients.

Keywords: Intrauterine contraception; Intrauterine device; Clinician knowledge; Survey; Insertion; Family physician

1. Introduction

Although contraceptive prevalence in the US is high [1,2] and most methods are nearly 100% effective when used perfectly [3,4], unintended pregnancy remains a significant public health issue. Healthy People 2010 includes the objectives that 70% of pregnancies are intended and that only 7% of women will experience pregnancy despite using a reversible contraceptive method [5]. Yet, at least half of US women will experience an unintended pregnancy by age 45 [6] and over 50% of women receiving abortion services in the US were using contraception at the time of their unintended pregnancy [7]. Improper and inconsistent use of contraception contributes to the rate of unintended pregnancy [8,9]. Since nearly one quarter of US women seeking private family planning care see a family physician (FP) [8] and the average US woman spends 30 years trying to avoid pregnancy [10], it is critical that FPs counsel and provide all appropriate contraceptive methods.

Many of the factors associated with poor contraceptive adherence (forgetting, method unavailability, misunderstanding of correct use) [11–13] are obviated by user-independent methods. Intrauterine contraception (IUC) is user independent, highly reliable [4], safe [14–16], and cost-effective [17,18]. There are few contraindications to IUC use [19], yet IUC use in contracepting US women is only 5% [1] as compared to 15% worldwide [20]. Increasing IUC use has the potential to reduce unintended pregnancy rates [21]. Two types of IUC are currently available in the US, the Copper T

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380A (Teva Pharmaceuticals Inc, marketed as ParaGard®), and the levonorgestrel-releasing intrauterine system (Bayer HealthCare Pharmaceuticals, marketed as Mirena®).

The issues behind low IUC utilization are manifold and include patient, clinician and health systems factors. Since clinician recommendation and insertion are necessary for IUC provision, elucidating clinician factors is vital. We know little, however, about FPs practices with IUC. One national survey reports that 99% of FP respondents "dispense, prescribe or recommend" oral contraceptives, but only 39% do so with IUC [8]. A survey of Indian Health Service providers found that all providers perform contraception counseling and have a generally favorable attitude towards IUC, but FPs have less IUC knowledge and experience than obstetrician-gynecologists [22]. We do not know of any prior published study identifying possible determinants of whether or not FPs insert IUC.

In order to understand potential facilitators and barriers to FPs inserting IUC, we sought (1) to compare the knowledge, attitude and practice of FPs who insert IUC to those who do not, and (2) to describe FPs practice with IUC insertion. We hypothesized that FPs who insert IUC had more insertion training in residency [22,23], graduated from residency more recently, are more likely to be female, perform cervical cancer screening (Pap smears) in their current clinical practice, do not believe it takes more time to counsel about IUC and have increased knowledge of, comfort counseling about, and positive beliefs towards IUC.

2. Materials and methods

The Institutional Review Board of Montefiore Medical Center in the Bronx, NY, and the University of Southern California in Los Angeles approved this project.

2.1. Study population and eligibility

We surveyed a random national sample of FPs identified from the American Medical Association's Physician Master File. This database is intended to include all US physicians [24,25]. Our sample of 3500 FPs was selected by Medical Marketing Services (a database licensee of the American Medical Association) computer-generated algorithm from a total population of approximately 95,000 FPs. Exclusion criteria included Puerto Rican practice sites and classification as a resident, administrator or retiree.

2.2. Sample size determination

We planned to compare those physicians who had inserted at least one IUC in the past 12 months called "inserters" and those who had not inserted IUC in the past 12 months called "non-inserters." We speculated that the inserters and non-inserters would be represented in a 1:4 ratio. A priori power analyses indicated that 600 responders would provide adequate power to detect differences of small/medium effect size (d=.3, one third of a standard deviation difference between groups) in knowledge, attitude and practice behaviors between inserters and non-inserters. A post hoc multivariate logistic regression was conducted with members of the sample with data on all predictors (complete-case analysis). The retained sample size and distribution of variables provided sufficient statistical power for reliable parameter estimates and significance tests.

2.3. Survey instrument

The majority of our questions were adapted from those used in prior survey studies exploring clinicians' knowledge, attitude and clinical practice with IUC [22,23]. We developed additional questions related to FPs and to the levonorgestrel-releasing intrauterine system. All questions were piloted on a sample of FPs at our home institutions, and the survey was modified appropriately.

The final 45-item self-administered survey contained demographic questions including training in and current provision of reproductive health services. We measured training in IUC insertion by asking how many IUCs respondents inserted during residency (none, 1–9, 10–19, 20–49 or more than 49). Likelihood to recommend IUC was measured by asking "How likely are you to recommend IUC to a woman with each of the following characteristics?" followed by eight unique patient scenarios, none of which precludes IUC use. These scenarios included nulliparity, distant history of a sexually transmitted infection (STI) or pelvic inflammatory disease (PID), unmarried status, non-monogamous sexual relationship, abnormal Pap with colposcopy pending, age younger than 20 years and history of ectopic pregnancy. Responses were recorded on a five-point Likert scale. The four knowledge questions were derived from evidence-based literature and package inserts [4,26]. Questions assessing attitudes and beliefs covered: comfort in discussing IUC with patients (very comfortable to very uncomfortable); perception of patients' receptivity to learning about IUC (very receptive to not at all receptive); IUC safety (true, false, unsure); efficacy (very effective to very ineffective) and, as compared to other contraceptive methods, time needed to discuss IUC with patients (more, same or less). For those respondents who indicated they had inserted IUC in the prior 12 months, we asked about the frequency and type(s) of IUC(s) they inserted and their practice with STI testing, cervical cancer screening and pregnancy evaluation prior to insertion.

2.4. Data collection

In May 2008, we mailed 3500 FPs a cover letter, survey, $1 incentive and business reply envelope. FPs could respond either via mail or secure Internet survey site. Three weeks later, we sent a follow-up reminder mailing with a replacement survey and another $1 incentive [27,28]. FPs who did not respond 6 weeks after the second mailing were considered nonresponders.