

IUD Type and Indicators of Difficult Insertion Among Women With Intrauterine Devices

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DISCLOSURES

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BACKGROUND

- Approximately 16% of women who use contraception in the United States use long-acting reversible contraceptives such as an intrauterine device (IUD).
- There are two types of IUDs: copper and levonorgestrel-releasing (LNG), both indicated for prevention of pregnancy.
- Difficulty with IUD insertions is associated with negative outcomes (e.g., uterine perforation) for the woman and may differ by IUD type and the presence or absence of menorrhagia (heavy menstrual bleeding).
- Procedures and medications may be used proactively (in women with or without a history of difficult insertion) or as a result of encountered difficulty at the time of insertion.

OBJECTIVE

- To describe the proportion of women who have indicators of difficult insertion during IUD placement by IUD type and recent menorrhagia.

METHODS

- Women aged ≤ 50 years receiving IUDs were identified at each of four sites (three Kaiser Permanente sites—Northern California, Southern California, and Washington—and Regenstrief Institute, Indiana) (see Figure 1). The first insertion in the study period was included in this analysis.

Figure 1. Study Population Catchment Areas



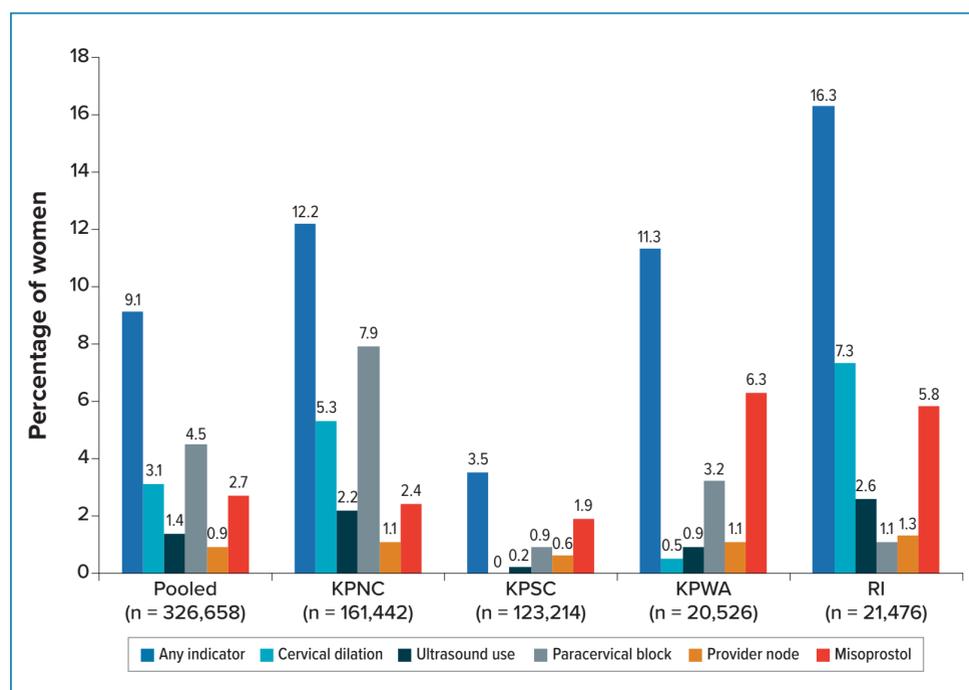
- Study clinicians identified medications and procedures that could be used during a difficult insertion, refining a list of difficult insertion indicators suggested by the United States Food and Drug Administration that included need for cervical dilation or ultrasound use and patient report of significant pain during or immediately following insertion.
- The five indicators chosen for this analysis were those that clinicians agreed were plausibly related to difficult insertions and were possible to assess in the data at each site: cervical dilation, ultrasound use, paracervical block, use of misoprostol, and provider note of difficult insertion.
- Structured (National Drug Codes, International Classification of Diseases 9th and 10th Revisions—Clinical Modification [ICD-9-CM/ICD-10-CM], Current Procedural Terminology) and natural language processing of unstructured (clinical notes) data were used to identify IUD type and five indicators of difficult IUD insertion. ICD-9-CM and ICD-10-CM were also used to identify recent menorrhagia.
- The proportion of women with difficult insertion was assessed overall, by IUD type, and by recent menorrhagia diagnosis.
- The indicators of difficult insertion were not mutually exclusive. Women could have had more than one of these indicators.

RESULTS

- Among 326,658 women with IUD insertions, 63,664 (20%) received copper IUDs, 259,234 (79%) received LNG IUDs, and 3,760 (1%) had insertions of unknown IUD type.
- Overall, 9.1% of women (site range, 3.5%-16.3%, Figure 2) experienced at least 1 indicator of difficult insertion; a lower proportion of women with copper (7.3%) had any of the five indicators of difficult insertion versus women with LNG IUDs (9.5%) (Figure 3).
- As expected, women with menorrhagia were more likely to receive LNG IUDs than copper IUDs (LNG: 97.4%, Cu: 2.6%), and women with concomitant procedures were more likely to receive LNG IUDs (LNG: 89.7%, Cu: 10.3%), and the proportion of women with an indicator of difficult insertion was higher among women with recent menorrhagia (11.5%) than among those without this diagnosis (8.8%) (Figure 3).

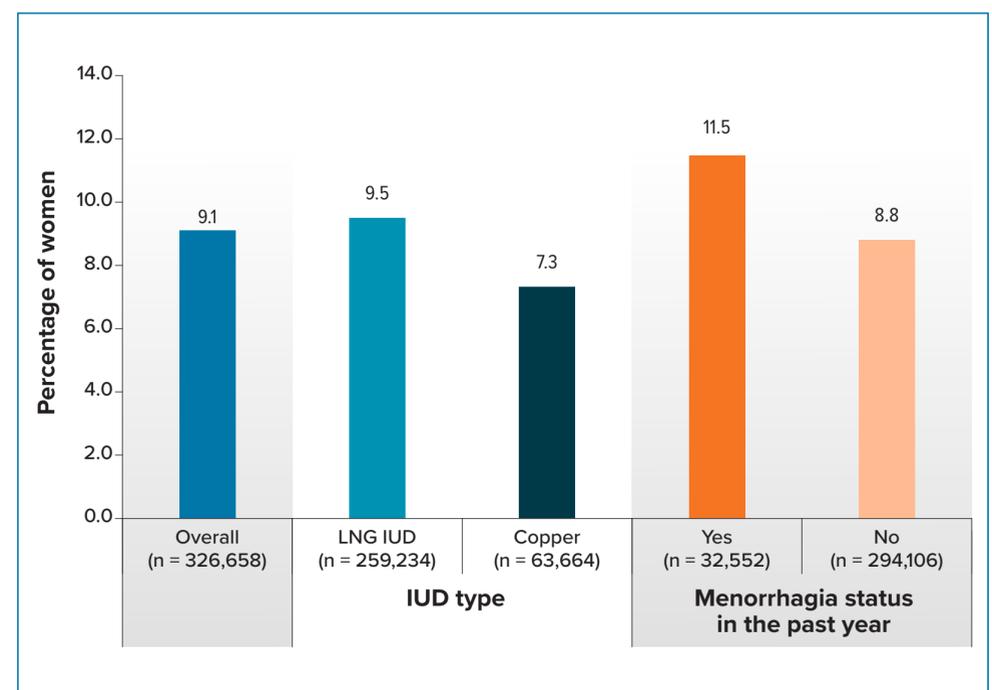
- Overall, the most common indicator of difficult insertion was paracervical block (4.5% of insertions, findings driven by proportion at largest site); however, misoprostol use and mechanical cervical dilation were more common at some sites (Figure 2).

Figure 2. Indicators of a Difficult Insertion; Pooled and by Site



KPNC = Kaiser Permanente Northern California; KPSC = Kaiser Permanente Southern California; KPWA = Kaiser Permanente Washington; RI = Regenstrief Institute.

Figure 3. Any Indicator of a Difficult Insertion, Overall, by IUD Type and by Menorrhagia Status; Pooled



DISCUSSIONS AND CONCLUSIONS

- The proportion of women with an indicator of potentially difficult insertion was higher among those receiving LNG IUDs versus those receiving copper IUDs and was higher among women with menorrhagia versus those without.
- However, as LNG IUDs are also secondarily indicated for recent menorrhagia and more likely to be inserted with concomitant procedures, these factors might play a mediating role in this observed difference.
- If any of the four procedures were used prophylactically, they might have made the insertion easier, yet we are unable to determine whether the procedures/medications were used proactively as a result of encountered difficulty at the time of insertion or due to a history of difficult insertion.

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