

. **Title :**Efficacy of a standardized, multimodal approach to pain control during IUD insertion

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. **Background:**

. Long-acting reversible contraceptives such as intrauterine devices (IUDs) are among the safest, most effective, and longest-lasting forms of contraception, yet only about 12% of patients who use contraception have IUDs.

. There is currently no standard pain control regimen for IUD insertion, despite the fact that multiple interventions have been shown to reduce pain during this procedure including NSAIDS, 10% lidocaine spray, verbal anesthesia, and ultrasound guidance.¹⁻⁴

. Other interventions, including misoprostol and paracervical block, have been inconsistent in improving pain and come with additional side effects.^{5,6}

. **Objectives:**

. We aimed to investigate the efficacy of standardized, multimodal pain control bundle (oral naproxen, a high-potency topical cervical anesthetic, emotional support person, and ultrasound guidance) on the experience of pain during IUD insertion.

. Secondary outcomes included successful placement achieved during clinical visit, complications within six weeks of placement including expulsion, removal, and malposition, memory of pain experienced during IUD insertion reported in the follow-up survey, whether the patient would have an IUD placed again in the future, and whether they would recommend IUD placement to a friend

. **Methods:**

. We enrolled 247 patients who underwent IUD insertion from May 2022 – May 2024. They were surveyed about their experience with IUD placement as well as self-reported complications 4-6 weeks after insertion. We also asked whether they would have an IUD placed in the future or if they would recommend the procedure to a friend.

. Of the 218 eligible for final data analysis, 118 were in the control group and 100 were in the treatment group. T- test was used to compare mean pain scores between groups

. **Results:**

. There were no substantive differences between the cohorts in terms of BMI, Race, obstetric history (parity, prior vaginal delivery), prior IUD use, or type of IUD placed. A total of 218 patients were enrolled with 118 in the no intervention phase (control group) and 100 in the intervention phase (treatment group). Of the participants in the control group, 53% received pain medication prior to the procedure, 20% had cervical numbing medication, and 20% had support person present. For the intervention group (treatment group), 100% received oral pain medication, 99% had cervical numbing medications, and 100% had a support person present. Ultrasound assistance was used in <2% of the control group and 40% of the treatment group. Maximum pain during the procedure was 5.6 in the control group and 5.7 in the treatment group. G0 only participants had higher pain scores than multiparous patients in both groups. In the no-intervention group, G0 patients had an average pain score of 6.5, and G1+ patients had an average pain score of 5. This was similar in the treatment group, with G0 average pain of 6.7 and G1+ average pain of 4.8.

. **Conclusion**

. There was no significant difference in mean pain score during IUD insertion between the standard practice cohort and the treatment cohort

. Nulliparous participants did have statistically significantly higher pain scores compared to parous women, regardless of the SMArTII pain bundle. This group may benefit from special consideration and future research on pain reduction.

. Complications including expulsion and malposition occurred at a low rate in our study for both cohorts.

. Despite pain, over 70% of women would recommend IUD placement to a friend. This did not vary between groups.