Children's Hospital of Philadelphia
PolicyLab

Reducing Pain During Intrauterine Device Insertion: A Randomized Controlled Trial in Adolescents and Young Women

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OBJECTIVE: To estimate the effect of a 1% lidocaine paracervical nerve block on pain during intrauterine device (IUD) insertion compared with a sham block in adolescents and young women.

METHODS: We conducted a multisite, single-blind, sham-controlled randomized trial in adolescents and young women having a 13.5-mg levonorgestrel IUD inserted. Enrollment occurred at three family planning clinics in Philadelphia, Pennsylvania. Eligible adolescents and young women were aged 14-22 years, nulliparous, not currently or recently pregnant, and English-speaking. Participants were randomized using computer-generated allocation in block sizes of four to receive a 10-mL 1% lidocaine paracervical block or a sham block (1 cm depression of the vaginal epithelium at paracervical block sites with a wooden cotton-tipped applicator). Only patients were blinded. The primary outcome was pain after IUD insertion measured with a 100-mm visual analog scale. Using a two-sided t test and assuming a 20-mm difference in visual analog scale scores, a SD of 28 mm, an α of 0.05, and 90% power, a sample of 43 participants per group was estimated.

RESULTS: Between March 2015 and July 2016, 95 participants enrolled (47 lidocaine block group; 48 sham block group). All were included in the analysis. Forty-four percent were white, 36% black, 65% privately insured, and 79% previously used contraception. The median visual analog scale score after IUD insertion was 30.0 (95% CI 20.0-58.0) in the lidocaine block group and 71.5 (95% CI 66.0-82.0) in the sham block (P<.001).

CONCLUSION: A 10-mL 1% lidocaine paracervical nerve block reduces pain during IUD insertion in adolescents and young women compared with a sham block with pressure on the vaginal epithelium.

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