

Empowering Patients: The Role of Education in Pain Alleviation during IUD Insertion



Eden Estevez¹, Shivaughn M. Hem-Lee-Forsyth², N'Diera Viechweg³, Sharon John⁴,
Stephanie P. Menor⁵

^{1,2,3,4,5} St. George's University, St. George's, Grenada.

ABSTRACT: The discomfort and apprehension associated with the Intrauterine Device (IUD) insertion procedure presents a challenge to its widespread acceptance as a contraceptive modality, notwithstanding its established efficacy. Healthcare providers play a pivotal role in addressing this challenge through the provision of comprehensive educational interventions targeting young women regarding the intricacies of IUD insertion. Such proactive educational endeavors hold promise in fostering heightened acceptance and utilization of the IUD, thereby reducing the rates of unintended pregnancies. This paper delineates strategic interventions aimed at fostering IUD adoption, bolstered by empirical evidence attesting to its efficacy in curbing rates of unplanned pregnancies, childbirths, and induced abortions, particularly within the demographic of young women.

HISTORY OF INTRAUTERINE DEVICES (IUDS)

In 1909, Richard Richter created a flexible intrauterine ring made from suture material, which was said to be successful as a contraceptive method. In the decades following, the IUD was further developed by experimenting with various materials and shapes. By 1968, Hugh Davis developed the Dalkon Shield, which was a plastic, pronged crab-like IUD preventing expulsion from the uterus, which proved efficacious but not without adverse outcomes. Several women who used the shield reported developing infections and septic abortion, ultimately negatively impacting IUD use (Vranic & Delic, 2006).

Since 2009, two types of intrauterine devices have been available in the United States: a copper-containing and a levonorgestrel-releasing system. The copper IUD irritates the uterine cavity via a cytotoxic inflammatory response that prevents sperm motility and viability. The levonorgestrel-releasing IUD releases progesterone, which in turn suppresses the growth of the endometrium. The levonorgestrel-releasing IUD also thickens the cervical mucus, preventing sperm motility (Lanzola & Ketvertis, 2023).

IUD ELIGIBILITY

IUDs are a form of long-acting reversible contraceptive (LARC) that can be used by women of all ages, no matter if they are adolescents, nulliparous, or parous. They are primarily used to prevent conception, and they do not protect against sexually transmitted infections (CDC - *Intrauterine Contraception - US SPR - Reproductive Health*, 2019).

Patients on hormone replacement therapies can use the levonorgestrel-releasing IUD for endometrium protection and treatment of menorrhagia. The copper-containing IUD has a documented successful use as emergency contraception if placed within five days of intercourse (Lanzola & Ketvertis, 2023).

Although there are two kinds of IUDs, both have universal and IUD-specific contraindications listed in Table 1 of the appendix (Lanzola & Ketvertis, 2023).

Women with certain medical conditions, such as uterine abnormalities or a history of pelvic inflammatory disease, may still be eligible for IUD use after careful evaluation and consideration of individual risk factors (O'Brien et al., 2022). Healthcare providers must also assess patients in their medical history for cervical or uterine cancer, as these conditions may impact IUD eligibility and require specialized management. Furthermore, counseling regarding potential side effects such as expulsion and perforation may be needed to ensure informed decision-making (Gatz et al., 2022). Consideration of these factors allows providers to effectively determine IUD eligibility and provide appropriate contraceptive care to patients.

Empowering Patients: The Role of Education in Pain Alleviation during IUD Insertion

THREATS AND SUCCESSES

Contraception has witnessed a dynamic landscape, with numerous methods competing for recognition in family planning. Among these options, the IUD has emerged as a widely utilized contraceptive method, chosen by more than 14% of women worldwide (*Intrauterine Devices (IUDs): Access for Women in the U.S.*, 2020). Despite its widespread use, concerns were found regarding insertion-related pain as an obstacle that impedes the acceptance of the IUD, especially among younger women who face elevated risks of unintended pregnancies, which often lead to various adverse consequences (Kornides et al., 2015).

The worry of experiencing pain during insertion is a significant barrier. It arises from a lack of comprehension or misinformation regarding the procedure, directly resulting in feelings of anxiety and hesitancy (Hunter et al., 2020). Moreover, considerable apprehension exists among individuals regarding the possibility of IUD expulsion and the device moving or being removed from the uterus, adding to concerns about the dependability and efficacy of IUDs despite minimal expulsion rates linked to contemporary IUDs (Bahamondes & Bahamondes, 2021).

Additionally, adolescents contemplating an IUD may hesitate due to the fear of having a foreign object in the uterus. The perception of the IUD as a foreign entity within the body can evoke further discomfort and anxiety, influencing the decision-making process. Moreover, there is apprehension about potential physical harm resulting from the IUD. Women may have concerns regarding the device's safety and the potential risks associated with its presence in the uterus. Misconceptions or insufficient information about the safety profile of IUDs further hinder the adoption of the IUD as a contraceptive option (Hunter et al., 2020).

It is essential to tackle these fears to enhance the acceptance and utilization of IUDs among young women. Educational efforts and counseling directed at dispelling misunderstandings and emphasizing the safety and effectiveness of modern IUDs can significantly aid in fostering informed decision-making among young women and alleviate worries regarding pain and potential risks, ultimately increasing IUD usage (Akdemir & Karadeniz, 2019).

Educating clinicians and patients is crucial for enhancing the current strategies related to IUD insertion. Although obstetricians and gynecologists should present suitable contraceptive options to all patients, some clinicians tend to be excessively cautious when considering IUD methods, often excluding nulliparous or adolescent patients ("Committee Opinion No. 615," 2015). Accredited training programs in LARC for clinicians through continuing medical education can maintain enhancements in attitudes, clinician knowledge, and patient counseling (Chelvakumar et al., 2019).

Nulliparous and adolescent patients face additional barriers when considering contraception, including unawareness or discomfort with IUDs, lack of parental approval, cost of insertion and the device, and unfamiliarity with the healthcare provider establishing care. Studies indicate that educating patients on various contraception methods available at no cost can help overcome these barriers. With proper patient education, 67% of women opted for a form of LARC, with 56% of them selecting an IUD as their contraceptive method (Secura et al., 2010).

CONCLUSION

Despite being highly effective, concerns about pain during IUD insertion persist among women, influenced by various psychosocial factors such as negative perceptions of LARC, preoperative anxiety, and fear of pain. This paper identifies and investigates various barriers to IUD use and highlights the significance of patient education and counseling in managing pain and improving overall patient experiences during IUD insertion. The findings suggest that addressing negative perceptions of LARC and providing comprehensive patient education can help alleviate anxiety and fear associated with IUD insertion, thereby reducing pain perception and increasing use. Counseling interventions aimed at informing women about the advantages and drawbacks of IUDs are crucial in empowering them to make informed decisions about their reproductive health. Finally, this study offers valuable insights for public health interventions by addressing misconceptions about IUDs, alleviating pre-procedure anxiety, and providing comprehensive counseling. Healthcare providers can effectively manage pain during IUD insertion and improve patient satisfaction. Undoubtedly, further research and implementation of evidence-based interventions are necessary to optimize reproductive healthcare delivery and promote women's reproductive autonomy and well-being.

REFERENCES

- 1) Akdemir Y, Karadeniz M. The relationship between pain at IUD insertion and negative perceptions, anxiety, and previous mode of delivery. *The European Journal of Contraception & Reproductive Health Care*. 2019;24(3):240-245. doi:<https://doi.org/10.1080/13625187.2019.1610872>.
- 2) American College of Obstetrics and Gynecology. Long-Acting Reversible Contraception: Implants and Intrauterine Devices. <https://www.acog.org/clinical/clinical-guidance/practice-bulletin/articles/2017/11/long-acting-reversible-contraception-implants-and-intrauterine-devices>. Accessed February 14, 2024.

Empowering Patients: The Role of Education in Pain Alleviation during IUD Insertion

- 3) Bahamondes MV, Bahamondes L. Intrauterine device use is safe among nulligravidas and adolescent girls. *Acta Obstetrica et Gynecologica Scandinavica*. 2021;100(4):641-648. doi:<https://doi.org/10.1111/aogs.14097>.
- 4) Centers for Disease Control and Prevention. Intrauterine Contraception. <https://www.cdc.gov/reproductivehealth/contraception/mmwr/spr/intrauterine.html#:~:text=IUDs%20are%20long%20acting%2C%20are>. January 16, 2019. Accessed March 19, 2024.
- 5) Chelvakumar M, Jabbarpour Y, Coffman M, Jetty A, Glazer Shaw J. Long-acting Reversible Contraception (LARC) Provision by Family Physicians: Low But on the Rise. *The Journal of the American Board of Family Medicine*. 2019;32(1):10-12. doi:<https://doi.org/10.3122/jabfm.2019.01.180215>.
- 6) Committee Opinion No. 615. *Obstetrics & Gynecology*. 2015;125(1):250-255. doi:<https://doi.org/10.1097/01.aog.0000459866.14114.33>.
- 7) Gatz JL, Mary Anne Armstrong, Postlethwaite D, et al. Association between intrauterine device type and risk of perforation and device expulsion: results from the Association of Perforation and Expulsion of Intrauterine Device study. *American Journal of Obstetrics and Gynecology*. 2022;227(1):57.e1-57.e13. doi:<https://doi.org/10.1016/j.ajog.2022.03.062>.
- 8) Hunter TA, Sonalkar S, Schreiber CA, Perriera LK, Sammel MD, Akers AY. Anticipated Pain During Intrauterine Device Insertion. *Journal of Pediatric and Adolescent*
- 9) Kaiser Family Foundation. Intrauterine Devices (IUDs): Access for Women in the U.S. <https://www.kff.org/womens-health-policy/fact-sheet/intrauterine-devices-iuds-access-for-women-in-the-u-s>. September 9, 2020. Accessed March 19, 2024.
- 10) Kornides ML, Kitsantas P, Lindley LL, Wu H. Factors Associated with Young Adults' Pregnancy Likelihood. *Journal of Midwifery & Women's Health*. 2015;60(2):158-168. doi:<https://doi.org/10.1111/jmwh.12258>.
- 11) Lanzola EL, Ketvertis K. Intrauterine Device. Treasure Island, FL: StatPearls Publishing; 2023. <https://www.ncbi.nlm.nih.gov/books/NBK557403>. Accessed March 19, 2024.
- 12) Mirena® (levonorgestrel-releasing intrauterine system). https://www.accessdata.fda.gov/drugsatfda_docs/label/2008/021225s019lbl.pdf. Accessed March 19, 2024.
- 13) O'Brien K, Russell C, Frances Fei Y, Rosen MW. Use of Two Levonorgestrel Intrauterine Devices in a Patient with a Uterus Didelphys: A Case Report. *Journal of Pediatric and Adolescent Gynecology*. 2022;35(6):718-721. doi:<https://doi.org/10.1016/j.jpog.2022.07.009>.
- 14) Paragard® T380A intrauterine copper contraceptive. <https://www.paragard.com/pdf/PARAGARD-PI.pdf>. Accessed March 19, 2024.
- 15) Secura GM, Allsworth JE, Madden T, Mullersman JL, Peipert JF. The Contraceptive CHOICE Project: reducing barriers to long-acting reversible contraception. *American Journal of Obstetrics and Gynecology*. 2010;203(2):115.e1-115.e7. doi:<https://doi.org/10.1016/j.ajog.2010.04.017>.
- 16) Vranic E, Delic T. Intrauterine Devices - Past, present, and future perspectives. *Farmaceutski Vestnik*. 2006;57(1):14-23. <https://www.dlib.si/details/URN:NBN:SI:DOC-XJZ8XJU9>. Accessed March 19, 2024.

APPENDIX

Table 1: Contraindications to IUD insertion

Diagnosis or suspicion of pregnancy
Congenital or acquired uterine anomaly
Acute pelvic inflammatory disease
History of postpartum endometritis or septic abortion within the last three months
Acute liver disease or liver tumors, whether benign or malignant ^b
History of previously inserted IUD before removal
Hypersensitivity to any component of the IUD
Known or suspicion of breast malignancy ^b
Uterine bleeding of unknown etiology
Wilson's disease ^a
Copper sensitivity ^a
Untreated acute cervicitis, vaginitis, or lower genital infection

Empowering Patients: The Role of Education in Pain Alleviation during IUD Insertion

IUD = intrauterine device

^a*Specific to copper-containing IUD*

^b*Specific to levonorgestrel-releasing IUD*



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.