

Short Communication

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Adolescent Intrauterine Contraception: IUD Size and Comfort during Insertion are Essential (IUD use in adolescents)

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Abstract

Background: Unintended pregnancies and induced abortion in adolescent women are soaring. The use of long-acting reversible contraceptives (LARC), particularly the intrauterine device (IUD) and implant, are advocated as they don't require daily adherence.

Objective: To provide expert advice on the use of IUDs in young nulliparous and adolescent women in order to maximize continuation of use of the method.

Results: Clinical studies suggest that high continuation of use of an IUD can be achieved by giving attention to the geometric relationship between the IUD and the host uterine cavity. Frameless IUDs virtually eliminate pain complaints and embedment caused by too large IUDs resulting often in early discontinuation.

Conclusion: Appropriate intrauterine devices could enhance continuation of use and result in fewer unintended pregnancies and induced abortions. It is imperative to attach importance to comfort during device insertion to motivate young women to use the method.

Keywords: Adolescent; Contraception; IUD; Expulsion; Side effects

Introduction

The use of long-acting reversible contraceptive methods (LARC) are considered of major importance to reduce the global "epidemic" of unintended pregnancies, particularly in young women as they are highly effective and not subject to daily concordance. However, when considering the size of the uterine cavity in young women and the size of the available IUDs, most IUDs are too large for the majority of these young women [1]. Almost 50 years ago, researchers stressed the importance of an optimal interrelationship between the IUD and the uterine cavity as fewer side effects and greater acceptability would thereby be promoted [2]. Clinical experience shows that geometric incompatibility between the rigid or semi-rigid IUD and the uterine cavity can lead to partial or total expulsion, embedment, pain, unintended pregnancy, and abnormal or heavy uterine bleeding, resulting in removal of the device. Early removal due to cramping pain occurs frequently and more often in nulliparous and adolescent women than in older women. Discontinuation rates after 6 months or one year of 40 to 50% are not unusual. Early discontinuation places these young women at risk of unintended pregnancy as many among them move to less effective methods or to no protection at all [3]. Early discontinuation undermines the potential of the IUD to reduce unintended pregnancy. In addition, the wasted expense of the IUD and the burden of insertion provoke bad publicity for this method.

Anatomical Considerations

Providers of IUDs should realize that the only way to obtain comfort during IUD use and a high continuation rate is by using an IUD that is not wider than the width of the uterine cavity.

A recent study conducted in nulliparous women found that about two thirds had a uterine cavity width of less than 24 mm with range between 13 and 35mm [4] (Table 1).

Frameless IUDs

In contrast with framed IUDs, frameless IUDs maintain a high rate of continuation over the full lifespan of the IUD. Rates over 90% at 5

	Range	50th percentile measure	No (%) under 50th percentile
Fundal width (mm)	13.8-35.0	24.4	101 (62.7)

Table 1: Fundal transverse diameter (mm) in 165 Finnish nulliparous women [4].

years have been noted. the device is provided with a tiny anchoring knot which is inserted with a special inserter positioning the knot in the middle of the uterine fundus. A marker, visible on ultrasound confirms if the knot has been properly placed [5].

Insertion is usually performed in the office with or without anesthesia. Misoprostol to dilate the cervix and a NSAID may be useful. In anxious patients insertion can be done under conscious sedation and a hysteroscopy technique has recently been developed in case the provider feels more at ease to perform the anchoring under direct vision. Post-placement pain is usually absent and analgesics are rarely needed as the IUD does not elicit uterine contractions. (Figure 1) illustrates the frameless copper IUD inserted in two uterine cavities with great variation in cavity width. The hysteroscopically inserted IUD illustrates the compatibility of the frameless IUD with the uterine cavity. A frameless levonorgestrel-releasing IUD is currently being developed for use in young women with gynecological conditions such dysmenorrhea, pelvic endometriosis, heavy menstrual bleeding, in association with contraception. Studies have shown high efficacy in treating these conditions [6].

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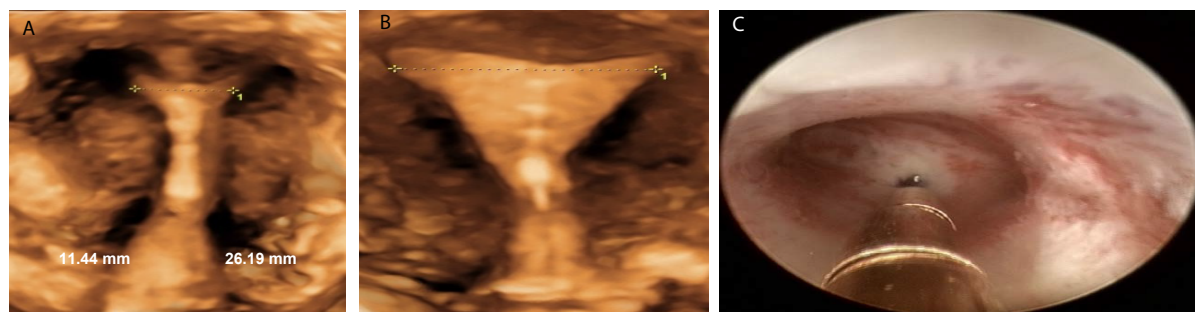


Figure 1: A) 3-D ultrasound picture of the frameless copper IUD in a uterine cavity with width of 11.44 mm. B) Same in a uterine cavity width measuring 26.19 in width. C) Hysteroscopic view after insertion in nulliparous women demonstrating the optimal relationship of the IUD with the narrow uterine cavity.

Summary Statement

The use of appropriate intrauterine devices that take into account the geometric relationship with the host uterine cavity will likely result in high rates of continuation and consequently fewer unintended pregnancies and induced abortions.

Conflict of Interest

Dirk Wildemeersch has conducted research in the field of non-hormonal and hormonal, framed and frameless intrauterine devices, including in nulliparous and adolescent women, for 30 years. Norman Goldstuck conducted research in intrauterine device use, including adolescents, for over 30 years. Dirk Janssens participated in clinical trials particularly with frameless levonorgestrel-releasing IUDs.

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