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VIEWPOINT

Optimizing Adolescent LARC: an Answer to Pregnancy Prevention

Lonna P. Gordon, MD, PharmD
New York, NY

ADOLESCENT PREGNANCY

Approximately 17 million adolescent women under the age of 20 give birth each year.[1] The excellent news is that this number is decreasing. However, adolescent women still comprise 11% of all births worldwide.[1] Complications of pregnancy and birth are the second leading causes of death for adolescent women worldwide.[1] Adolescent pregnancy is also associated with pregnancy-induced hypertension, pre-eclampsia, and preterm labor.[1,2] Additionally the children of adolescent women have lower birth weights, higher rates of infant mortality, and higher rates of developmental delays.[1,2] There are also far-reaching educational, economic, social, and psychological consequences of adolescent pregnancy.[1,2]

Ninety-five percent of adolescent births occur in low- to middle-income countries, predominantly in sub-Saharan Africa.[1] Global risk factors for teen pregnancy include poverty, lack of general and sexual education, living in a rural area, social pressure to have children, lack of access to medical care, and social stigma around seeking contraception.[1] Interestingly, these risk factors are also true in the United States (US).[2]

The US teen pregnancy rate is 43 per 1000 adolescent women, the highest in the developed world.[2] Pregnancy rates in the US are highest in the southern states and lowest in the northeast. There is also racial and ethnic disparity in pregnancy rates, with the highest pregnancy rates in Black and Hispanic adolescent women and lowest in Asian youth.[2] Despite pregnancy rates that are higher than desired, the rates have been trending down over the last 30 years. The current rate is one-third of the peak pregnancy rate in 1990. In addition, the adolescent abortion rate is the lowest it has been since abortion was legalized and 79% less than its peak in 1988.[2] These changes in the pregnancy and abortion rates indicate that pregnancy-prevention strategies are working.

PREGNANCY PREVENTION

Pregnancy prevention occurs on 3 levels. Primary prevention is focused on preventing pregnancy in adolescent women who have never previously been pregnant. Secondary prevention is focused on preventing repeat unintended or unplanned pregnancy. Tertiary prevention is focused on delaying pregnancy in the children of teen parents, who have higher rates of early pregnancy in comparison to their peers. Contraception is critical for all levels of pregnancy prevention. Indeed, the decrease in adolescent pregnancy and abortion rates in the US, as well as the low rates enjoyed by the remainder of the developed world, are directly related to access to reliable contraception. Without some form of family planning, 90%-93% of young women will get pregnant within 1 year.[3]

CONTRACEPTION OPTIONS

There are 3 categories of contraception: unreliable methods, reliable methods, and highly reliable methods. Unreliable methods include barrier methods such as the diaphragm and male or female condoms, mechanical methods such as coitus interruptus and fertility awareness, and chemical methods such as spermicide. The 1-year failure rate of these methods is 12%-25%.[3] In the areas of the world where adolescent pregnancy occurs with the highest incidence, over 90% of women of child-bearing age desire family

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From the Icahn School of Medicine at Mount Sinai, New York, NY. Address correspondence to L.G. (lonna.gordon@mountsinai.org).

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planning.[4,5] However, the vast majority are using barrier methods and reliable methods.[4] Reliable methods have lower failure rates of 6%-9% within 1 year.[3] They use a combination of estrogens and progestins, or progestins alone, to prevent pregnancy through a pill, transdermal patch, intravaginal ring, or depot injection. These methods require the adolescent woman to use her contraceptive method daily, weekly, monthly, or quarterly, which thus accounts for their failure rates. These methods (except for the depot injection) are not concealable, making them subject to contraceptive sabotage and lack of confidentiality. Also for adolescents, where access is a challenge, the need for frequent visits and the ongoing financial cost to receive contraception make adherence to these methods challenging. The highly effective methods have failure rates of less than 1% within 1 year.[3] These methods include long-acting reversible contraception (LARC), inclusive of the hormonal and copper intrauterine devices (IUDs) and contraceptive implant. These methods can last 3-10 years depending on the device chosen,[6] and once they are placed, they are discreet and confidential. They also do not require additional financial or medical interaction following placement.

ACCEPTABILITY OF LARC

The most widely purported misconception regarding adolescent LARC is that teens are not good candidates for LARC, particularly the IUD. This misconception stems from fear that LARC is unsafe, increases risk of serious infections, and that teens will not tolerate the insertion process and side effects. The contraceptive CHOICE study provided adolescent and adult women of reproductive age desiring contraception with contraceptive counseling and their contraceptive method of choice free of charge for a year.[7] The adolescent cohort of 1404 girls provided key evidence of adolescents' preferences regarding contraception.[6] When counseling adolescents, the most effective methods should be explained first and the least effective methods explained last.[7,8] Adolescents want to have their confidentiality assured and understand all of their contraceptive options, including side effects and potential effects on future fertility. When provided with this information, 72% of adolescent women chose LARC methods.[6] Younger adolescents (14-15 years old) preferred the contraceptive implant, whereas older adolescents preferred the IUD. Eighty-one percent of teens using LARC continued their method for 1 year, a rate not significantly different from the continuation rate in adult women.[9] Additionally, this rate was significantly higher than the continuation rate of 44% for non-LARC methods.[9] Finally, adolescent women were less likely to be satisfied with non-LARC methods but similarly satisfied with LARC methods as adult women.[9] The culmination of these findings is that LARC is desired, accepted, and well tolerated by adolescent women. Thus, providers should not hesitate to offer these methods to adolescent women, and they should be offered as the first-choice contraceptive option for young women.[10]

SPECIAL USES OF LARC

Although LARC is predominantly used in adolescents desiring contraception, it also has utility in a few unique instances. The main category is for menstrual suppression and abnormal uterine bleeding. The progestin-only LARC methods all decrease the amount of menstrual blood loss each month and may lead to amenorrhea within a year in up to 50% of adolescent women.[11] Another group of adolescent girls who benefit from the decrease in menstruation are those with developmental delay. For these girls, menstruation may pose challenges in maintaining hygiene, be a source of emotional distress, and increase care burden for caregivers. Previously, the progesterone injection was used for menstrual suppression in adolescent females who have experienced developmental delays. This method, however, requires a quarterly injection with increased appointments and pain at each visit. Additionally the depot injection has been shown to decrease bone density, an undesirable side effect in adolescents with limited mobility. On the contrary, the progestin implant is an effective method that does not require frequent follow-up, does not change bone density, and can be placed with relative ease. The use of a topical anesthetic cream to ease the pain of the local anesthetic and an anxiolytic agent given 30 minutes prior to the procedure allows for easier placement.

Another benefit of a progestin-only LARC method is thinning of the uterine lining. A thinner endometrium results in decreased release of prostaglandins when menstrual bleeding occurs, thus decreasing dysmenorrhea. Therefore, for adolescent girls who tolerate the cramps at the time of IUD placement, the progestin IUD or implant may be an acceptable treatment of dysmenorrhea.

Finally, the copper IUD has a unique use in transgender men. Transgender men are born with the internal reproductive organs of a woman. Although testosterone is a known teratogen, the literature is mixed as to whether it destroys fertility. Thus if a trans male has intercourse with a natal female, there is the possibility of an unintended pregnancy. However, many trans men feel trepidation to consider contraception that uses female hormones. The copper IUD is hormone free and highly effective, making it a good contraceptive option for a transgender man.

BARRIERS TO LARC UTILIZATION

Despite the recommendation for LARC as a first-line method of contraception for teen girls,[10] LARC is utilized by only 7% of teen girls seeking contraception.[12] Additionally, there is wide interstate variation, with the lowest use at 0.7% in Mississippi and highest at 25.8% in Colorado.[12] One major factor linked to utilization is access to LARC. Access to LARC is related to cost, confidentiality, barriers, and providers' attitudes. Multiple studies have shown that even among providers who routinely provide family planning services, there is reluctance to offer LARC to adolescents.[11,13] Some providers argue that LARC may encourage youth to engage in riskier sexual behavior,[13,14] thereby possibly increasing the incidence of sexually transmitted infections, a theory not supported by the literature.[14,15] Finally, access to LARC is hindered because it is typically not offered the same day as presentation for services. For many adolescents, to maintain confidentiality, access to contraception must be obtained in multiple visits. LARC placement on average requires 2-3 visits, and many family planning providers feel that this number cannot be decreased.[16] However, LARC use is increased in teens when they can leave with LARC the same day they present.[16] Thus the lack of medical facilities providing same-day LARC to adolescents is a huge access barrier.

OVERCOMING BARRIERS

The barriers to LARC utilization in adolescents can be broadly categorized as barriers of education, access, and cost. Barriers to LARC utilization are best addressed by a combination of interventions on the provider, patient, and societal level. Providers need education to debunk myths that may lead to less frequent recommendations of LARC methods. Additionally, there is a need for more providers who can provide LARC to adolescents. Very few pediatricians, whether general pediatricians or adolescent medicine specialists, are trained to place all types of LARC.[10] An excellent start to decreasing this barrier would be for general pediatricians to develop proficiency in placing the contraceptive implant during residency training. Another aim should be to teach proficiency in IUD placement during fellowship for all adolescent medicine specialists. Mid-level practitioners who work in practice settings that see a substantial number of adolescents should also be trained to place LARC. These measures will facilitate same-day LARC and allay some of the reservations that providers have in offering this service.[16] Finally, providers should be armed with resources to place LARC during complementary visits such as postabortion and postpartum.[17]

In addition, patient-level education is an important but relatively easy barrier to overcome.[6,7,18] In contrast, access is a more difficult challenge to overcome. Patients need to know where they can have a confidential and low-cost LARC placed. Young people need to be provided with a space where they can discuss their family-planning options with a well-informed practitioner in a nonjudgmental and confidential manner. Use of government family planning funds, private foundations, and nongovernmental organization funds to provide these devices for free should be prioritized toward adolescents who likely will not be able to afford even low sliding-scale fees. Although the Affordable Care Act has allowed for all forms of contraception, including LARC, to be provided free of charge, early studies have not shown increased LARC use among adolescents.[19] This may be due to a lack of awareness of the provisions of the Affordable Care Act and confidentiality concerns. If the third-party payor is a private insurance product, an explanation of benefits will be sent to the policy holder, who is likely a parent. Again, family-planning clinics and adolescent centers that can provide these devices at no cost are integral to overcoming access barriers.

Finally, on a societal level, steps can be taken to overcome the obstacles to providing adolescents with LARC. Measures that decrease stigma around adolescents choosing to use contraception are critical. For example, school districts offering comprehensive sex education, public health campaigns, and direct-to-consumer advertising are just a few ways in which the ill effects of stigma can be mitigated. Legislative advocacy securing the rights of minors to confidential reproductive health care is critical, as is

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protecting and expanding the financial means to provide these services.

CONCLUDING THOUGHTS

In conclusion, adolescent pregnancy is a serious global health issue. Worldwide, the incidence is decreasing and LARC is becoming an increasingly important part of this solution. LARC is safe, well tolerated, and highly desired by adolescents. However, for every teen who desires a LARC to receive one, there must be trained clinicians and health care policies to allow for confidential and affordable placement and to increase access.

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