Contraception
Menarche to Menopause

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KEYWORDS

• Barrier methods • Hormonal contraception • Long-acting reversible contraception • Sterilization • Intrauterine devices

KEY POINTS

- Unintended pregnancy rates remain unacceptably high, despite decades of research and advocacy.
- Newer literature supports the use of long-acting reversible contraception in most reproductive-aged women.
- Although there are more than 1800 recommendations regarding specific contraceptive tools in consideration of women's individual health statuses, most women have a wide selection of contraceptive options to safely consider.
- There are also several potential health benefits to contraception, including treatment of menorrhagia, dysmenorrhea, endometrial hyperplasia, malignancy chemoprophylaxis, and sexually transmitted disease prevention.

It is a widely touted fact that approximately 50% of pregnancies in the United States are unplanned.[1] Despite this statistical reality, that has been stable over decades, there has recently been a significant decrease in the rate of teen pregnancies (http://www.pewresearch.org/fact-tank/2016/04/29/why-is-the-teenbirth-rate-falling/).[2] A recent analysis by the Pew Research Center attributes this decrease to a multitude of factors, including economic challenges, decreased coital activity, better sex education, and the use of more effective contraception. Although contraception is nothing new, vigorous approaches to longer-acting methods have been quite effective. *Time Magazine* recently outlined the history of contraception.[3] Historical references include a 1550 BC Egyptian article entitled the *Ebers Papyrus* that discussed the construction of a vaginal pessary made out of dates, acacia, and honey as a paste and Casanova's memoirs approximately 2 centuries later that described sheep-bladder condoms and a half lemon used as a cervical cap. In Brooklyn in 1916 Margaret Sanger, a real pioneer in the field, opened the first family

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planning clinic in the United States, which was shut down in less than 2 weeks. Over time many laws were enacted prohibiting contraception, but in 1965 the US Supreme Court's *Griswold v Connecticut* ruling essentially overturned state laws banning contraception for married couples. Indeed the 1964 American Medical Association House of Delegates position stated that "an intelligent recognition of the problems that relate to human reproduction, including the need for population control, is more than a matter of responsible parenthood; it is a matter of responsible medical practice."[4] The US Food and Drug Administration (FDA) approved mestranol/norethynodrel, the first hormonal contraception, in May of 1960.[5] Despite significant advances in reproductive services since then, however, it is noteworthy that approximately 140 million around the world lack access to contraception.[6] In 2008, although 44% of maternal deaths (272,040 women) were prevented in 172 developing countries because of effective contraception, another 29% of maternal deaths could have been averted if there had been better contraceptive availability and practices.

TYPES OF CONTRACEPTION

There are a host of contraceptive choices, each with potential risks and benefits. These choices can be categorized according to mechanism, including natural family planning, barrier methods, hormonal systemic contraception, injectable progestins, long-acting reversible contraception (LARC), and permanent sterilization.

NATURAL FAMILY PLANNING

The US Department of Health and Human Services estimates that of 100 couples annually who use natural family planning up to 25 may become pregnant.[7] This method involves an analysis of a woman's menstrual cycle with particular emphasis on basal body temperature, cervical mucus, ovulation predictor kits, cycle beads, or the computation of cycle days. Barrier methods can be added to natural family planning techniques to improve efficacy. The barrier methods require personal skill regarding correct placement and insertion of the devices in addition to the commitment to regular consistent use.

BARRIER METHODS

Most barrier methods are used by female partners, including diaphragms, contraceptive sponges, cervical caps, and female condoms. Male partners' latex condoms can help decrease the risk of sexually transmitted diseases (STDs) in addition to a contraceptive benefit. Barrier methods have the added benefit of not being contraindicated for women with many systemic medical conditions that increase the risk of hormonal methods.

Diaphragms

Diaphragms require a prescription based on a clinician's appraisal of the appropriate size (size 60–90 mm) for a given patient (**Fig. 1**). The posterior rim of the device should sit comfortably in patients' posterior vaginal fornix, with the anterior rim tucked easily behind the pubic bone and the cervix should be palpable through its dome. It should be inserted before coitus and removed 6 hours later, 24 hours later at the latest. One of the advantages of diaphragms is women determine their timing and use. Although there are some studies indicating a decrease in STDs,