Review Article

ORAL CONTRACEPTIVES: RECENT ADVANCES, MECHANISM, AND CLINICAL APPLICATIONS

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Oral contraceptives (OCs) are one of the most commonly used reversible contraceptive methods worldwide. These hormonal treatments function by thickening the cervical mucus, altering endometrial receptivity, and inhibiting ovulation. They include synthetic estrogen and/or progestin. Between 2021 and 2025, new advances such as low-dose formulations, drospirenone-only pills, and over-the-counter availability increased accessibility and safety. OCs have a number of non-contraceptive benefits in addition to contraception, such as managing menstruation, reducing acne, and lowering the risk of endometrial and ovarian cancer. However, there are still concerns regarding potential risks such as thrombosis and cardiovascular disease. This article reviews oral contraceptives' mechanism of action, pharmacology, clinical applications, recent advancements, and public health concerns.

Keywords: Progestin-only pills (POPs), oral contraceptives, combined oral contraceptives (COCs), hormonal contraception, ovulation inhibition, ethinylestradiol, drospirenone, cervical mucus, Endometrial thromboembolism; contraceptive efficacy; reproductive health; pharmacokinetics, pharmacodynamics, and family planning

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