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PHARMACOLOGY

PHS 204

ASSIGNMENT: Write what you know about contraception and the types you know.

Give examples of the types of contraceptives and major on any five.

**Birth control**, also known as **contraception** and **fertility control**, is a method or device used to prevent [pregnancy](https://en.wikipedia.org/wiki/Pregnancy). Birth control has been used since ancient times, but effective and safe methods of birth control only became available in the 20th century. Planning, making available, and using birth control is called family planning Some cultures limit or discourage access to birth control because they consider it to be morally, religiously, or politically undesirable.

TYPES OF CONTRACEPTION:

STERILIZATION

Sterilization is a permanent form of birth control that either prevents a woman from getting pregnant or prevents a man from releasing sperm. A health care provider must perform the sterilization procedure, which usually involves surgery. These procedures usually are not reversible.

• A sterilization implant is a nonsurgical method for permanently blocking the fallopian tubes. A health care provider threads a thin tube through the vagina and into the uterus to

Place a soft, flexible insert into each fallopian tube. No incisions are necessary. During the next 3 months, scar tissue forms around the inserts and blocks the fallopian tubes so that sperm cannot reach an egg. After 3 months, a health care provider conducts tests to ensure that scar tissue has fully blocked the fallopian tubes. A backup method of contraception is used until the tests show that the tubes are fully blocked. • Tubal ligation is a surgical procedure in which a doctor cuts, ties, or seals the fallopian tubes. This procedure blocks the path between the ovaries and the uterus. The sperm cannot reach the egg to fertilize it, and the egg cannot reach the uterus. • Vasectomy is a surgical procedure that cuts, closes, or blocks the vas deferens . This procedure blocks the path between the testes and the urethra the sperm cannot leave the testes and cannot reach the egg. It can take as long as 3 months for the procedure to be fully effective. A backup method of contraception is used until tests confirm that there is no sperm in the semen.

Examples

1 Example of LARC: hormonal intrauterine device( mirena- also known as IUC or IUC)

2 Hormonal methods: an implant, injection, pills.

3 barrier method: condoms, diaphragm, cervical caps.

4 emergency contraception: ulipristal acetate.

5 sterilization: vasectomy, tubal ligation.

EMERGENCY CONTRACEPTION:

Emergency contraceptive pills, or the “morning-after pill,” may prevent pregnancy after intercourse. It prevents ovulation, fertilization, or implantation of an embryo.

It is different from medical methods of termination, because these act after the egg is already implanted in the womb. Emergency contraception can be used up to 72 hours after unprotected sex. It is 95% effective  during the first 24 hours, falling to 60 percent by 72 hours. Emergency contraception should only be used when primary methods fail. Some people see it as a kind of abortion, because the egg may have already been fertilized. Copper IUD. The copper IUD is the most effective method of emergency contraception. The device can be inserted within 120 hours of unprotected intercourse. The method is nearly 100% effective at preventing pregnancy and has the added benefit of providing a highly effective method of contraception for as long as the device remains in place. There are very few contraindications to use of the copper IUD, and there are no issues related to weight or obesity associated with the effectiveness of the method. • Emergency contraceptive pills (ECPs) are hormonal pills, taken either as a single dose or two doses 12 hours apart, that are intended for use in the event of unprotected intercourse. If taken prior to ovulation, the pills can delay or inhibit ovulation for at least 5 days to allow the sperm to become inactive. They also cause thickening of cervical mucus and may interfere with sperm function. ECPs should be taken as soon as possible after semen exposure and should not be used as a regular contraceptive method. Pregnancy can occur if the pills are taken after ovulation or if the woman has unprotected sex in the same cycle.

BARRIES METHOD

Barrier devices prevent the sperm from meeting the egg. They may be combined with spermicide, which kills the sperm.

Malecondom

The male condom forms a barrier and prevents pregnancy by stopping sperm from entering the vagina. It is placed over the penis before sexual intercourse begins. A condom is made of polyurethane or latex.

It can also help to prevent the spread of sexually transmitted infections (STIs).

It is around 82% effective. Some 18 women in every 100 may conceive if their partner uses a condom. Condoms are available from drugstores, supermarkets, and many other outlets. Health providers also supply them, sometimes for free.

Femalecondom

The female condom, or femidom, is made of polyurethane. It has a flexible ring at each end. One fixes behind the pubic bone to hold the condom in place, while the other ring stays outside the vagina.

Spermicides may be placed in the vagina before intercourse. A spermicide kills sperm chemically. The product may be used alone or in combination with a physical barrier.

The female condom is 79% effective. Around 21 women will become pregnant each year with this method. The femidom is less easy to find than the male condom. Only the FDA-approved FC2 is available in the United States. Health providers may supply them, or you can get them from a drugstore on prescription.

Sponge

A contraceptive sponge is inserted into the vagina. It has a depression to hold it in place over the cervix. Foam is placed into the vagina using an applicator. The foam is a spermicide that destroys the male sperm, and the sponge acts as a barrier to stop the sperm from reaching the egg.

Between 12 and 24 women out of every 100 who use the sponge may become pregnant.

It is less likely to work if a woman has already had a baby.

The diaphragm

A diaphragm is a rubber, dome-shaped device that is inserted into the vagina and placed over the cervix.

It fits into place behind the woman’s pubic bone and has a firm but flexible ring that helps it press against the vaginal walls.

Used with spermicide, it is 88% effective. Used alone, it is between 77 and 83 percent effective.

### Cervical cap

A cervical cap is a thimble-shaped, latex rubber barrier device that fits over the cervix and blocks sperm from entering the uterus. The cap should be about one-third filled with spermicide before inserting. It stays in place by suction.

It is around 88% effective if used with spermicide, and 77 to 83 percent effective without.

COMBINED HORMONAL METHODS

Combined hormonal methods contain a synthetic estrogen (ethinyl estradiol) and one of the many progestins approved in the United States. All of the products work by inhibiting ovulation and thickening cervical mucus. The combined estrogen/progestin drugs can be delivered by pills, a patch, or a vaginal ring. The combined hormonal methods have some medical risks, such as blood clots, that are associated with the synthetic estrogen in the product. These risks have not been observed with progestin-only hormonal methods such as injectable birth control, POPs, or hormonal LARCs. Your health care provider can discuss your risk factors and help you select the most appropriate contraceptive method for you.

• Combined oral contraceptives (COCs, "the pill"). COCs contain a synthetic estrogen and a progestin, which functions to inhibit ovulation. A woman takes one pill daily, preferably at the same time each day. Many types of oral contraceptives are available, and a health care provider helps to determine which type best meets a woman's needs. • Contraceptive patch. This is a thin, plastic patch that sticks to the skin and releases hormones through the skin into the bloodstream. The patch is placed on the lower abdomen, buttocks, outer arm, or upper body. A new patch is applied once a week for 3 weeks, and no patch is used on the fourth week to enable menstruation. Currently, Ortho Evra is the only patch that is FDA approved. • Vaginal ring. The ring is thin, flexible, and approximately 2 inches in diameter. It delivers a combination of ethinyl estradiol and a progestin. The ring is inserted into the vagina, where it continually releases hormones for 3 weeks. The woman removes it for the fourth week and reinserts a new ring 7 days later. Risks for this method of contraception are similar to those for the combined oral contraceptive pills. A vaginal ring may not be recommended for women with certain health conditions, including high blood pressure, heart disease, or certain types of cancer. Currently, the NuvaRing is the only FDA-approved vaginal ring. A new contraceptive vaginal ring that can be used for 13 cycles is under clinical development.

HORMONAL METHODS:

Hormonal methods of birth control use hormones to regulate or stop ovulation and prevent pregnancy. Ovulation is the biological process in which the ovary releases an egg, making it available for fertilization. Hormones can be introduced into the body through various methods, including pills, injections, skin patches, transdermal gels, vaginal rings, intrauterine systems, and implantable rods. Depending on the types of hormones that are used, these methods can prevent ovulation; thicken cervical mucus, which helps block sperm from reaching the egg; or thin the lining of the uterus. Health care providers prescribe and monitor hormonal contraceptives. Short-acting hormonal methods (e.g., injectables, pills, patches, rings) are highly effective if used perfectly, but in typical use, they have a range of failure rates.

• Injectable birth control. This method involves injection of a progestin, Depo-Provera (depot medroxyprogesterone acetate [DMPA]), given in the arm or buttocks once every 3 months. This method of birth control can cause a temporary loss of bone density, particularly in adolescents. However, this bone loss is generally regained after discontinuing use of DMPA. Most patients using injectable birth control should eat a diet rich in calcium and vitamin D or take vitamin supplements while using this medication. A new self-injectable formulation of DMPA, Sayana Press, is approved in the United Kingdom and is expected to be approved more widely in the near future. This subcutaneous injectable product has a lower amount of hormone and may be more acceptable for some users. • Progestin-only pills (POPs). A woman takes one pill daily, preferably at the same time each day. POPs may interfere with ovulation or with sperm function. POPs thicken cervical mucus, making it difficult for sperm to swim into the uterus or to enter the

fallopian tube. POPs alter the normal cyclical changes in the uterine lining and may result in unscheduled or breakthrough bleeding. These hormones do not appear to be associated with an increased risk of blood clots.