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**MATRIC NO: 18/MHS07/003**

**Assignment Title:** Discuss contraception and different types with details of any five.

**Course Title:** Physiology of Reproduction and Endocrine Organs

**Course Code:** PHS 204

**Question**

Points to include:

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

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

**Answers**

**Contraception:** Contraception (birth control) prevents pregnancy by interfering with the normal process of ovulation, fertilization, and implantation. There are different kinds of birth control that act at different points in the process.

Contraception tries to stop pregnancy from happening by:

* keeping the egg and sperm apart
* stopping egg production
* stopping the combined sperm and egg (fertilized egg) attaching to the lining of the womb

**Purpose:** Birth control (contraception) is designed to interfere with the normal process and prevent the pregnancy that could result. There are different kinds of birth control that act at different points in the process, from ovulation through fertilization to implantation. Each method has its own side effects and risks. Some methods are more reliable than others.Although there are many different types of birth control, they can be divided into a few groups based on how they work. These groups include:

**Hormonal methods:** These use medications (hormones) to prevent ovulation. Hormonal methods include birth control pills ( oral contraceptives ), Depo Provera injections, and Norplant.

**Barrier methods:** These methods work by preventing the sperm from getting to and fertilizing the egg. Barrier methods include male condom and female condom, diaphragm, and cervical cap. The condom is the only form of birth control that also protects against sexually transmitted diseases , including human immunodeficiency virus (HIV) that causes acquired immune deficiency syndrome (AIDS).

**Spermicides:** These medications kill sperm on contact. Most spermicides contain nonoxynyl-9. Spermicides come in many different forms such as jelly, foam, tablets, and even a transparent film. All are placed in the vagina. Spermicides work best when they are used at the same time as a barrier method.

**Intrauterine devices (IUDs):** These devices are inserted into the uterus, where they stay from one to ten years. An IUD prevents the fertilized egg from implanting in the lining of the uterus and may have other effects as well.

**Tubal ligation:** This medical procedure is a permanent form of contraception for women. Each fallopian tube is either tied or burned closed. The sperm cannot reach the egg, and the egg cannot travel to the uterus.

**Vasectomy:** This medical procedure is a the male form of sterilization and should be considered permanent. In vasectomy, the vas defrens, the tiny tubes that carry the sperm into the semen, are cut and tied off.

**Description**

All forms of birth control have one feature in common. They are only effective if used faithfully. Birth control pills work only if taken every day; the diaphragm is effective only if used during every episode of sexual intercourse. The same is true for condoms and the cervical cap. Some methods are automatically working every day, no matter what. These methods include Depo Provera, Norplant, the IUD, and tubal sterilization.

There are many different ways to use birth control. They can be divided into several groups:

**By mouth (oral):** Birth control pills must be taken by mouth every day.

**Injected:** Depo Provera is a hormonal medication that is given by injection every three months.

**Implanted:** Norplant is a long-acting hormonal form of birth control that is implanted under the skin of the upper arm.

**Vaginal:** Spermicides and barrier methods work in the vagina.

**Intra-uterine:** The IUD is inserted into the uterus.

**Surgical:** Tubal sterilization is a form of surgery. A doctor must perform the procedure in a hospital or surgical clinic. Many women need general anesthesia.

The methods of birth control differ from each other regarding when they are used. Some methods of birth control must be used specifically at the time of sexual intercourse (condoms, diaphragm, cervical cap, spermicides). All other methods of birth control must be working all the time to provide protection (hormonal methods, IUDs, tubal sterilization).

**Types of contraceptives**

* **Combined pill:** The combined oral contraceptive pill is usually just called "the pill". It contains artificial versions of female hormones oestrogen and progesterone, which women produce naturally in their ovaries. The pill prevents the ovaries from releasing an egg each month (ovulation). It also; thickens the mucus in the neck of the womb, so it is harder for sperm to penetrate the womb and reach an egg and it thins the lining of the womb, so there is less chance of a fertilized egg implanting into the womb and being able to grow.
* **Diaphragm or cap:** A contraceptive diaphragm or cap is a circular dome made of thin, soft silicone that's inserted into the vagina before sex. It covers the cervix so sperm can't get into the womb (uterus) to fertilize an egg. It is used with a gel that kills sperm (spermicide).
* **Female condoms:** Female condoms are made from soft, thin synthetic latex or latex. They're worn inside the vagina to prevent semen getting to the womb. They protect against pregnancy and sexually transmitted infections (STIs).
* **Implant:** The contraceptive implant (Nexplanon) is a small flexible plastic rod that's placed under the skin in your upper arm by a doctor or nurse. It releases the hormone progestogen into the bloodstream to prevent pregnancy and lasts for 3 years. It doesn't protect against sexually transmitted infections (STIs).
* **Injection:** The contraceptive injection (Depo-Provera, Sayana Press or Noristerat) releases the hormone progestogen into the bloodstream to prevent pregnancy. Depo-Provera lasts for 13 weeks. Occasionally, Noristerat may be given, which lasts for 8 weeks. Sayana Press also lasts for 13 weeks, but it's a newer type of injection so is not available at all clinics or GP surgeries.
* **IUD (coil):** An IUD is a small T-shaped plastic and copper device that's put into the womb (uterus). It releases copper to stop one from getting pregnant, and protects against pregnancy for between 5 and 10 years. It's sometimes called a "coil" or "copper coil".
* **IUS (hormonal coil):** An IUS is a small, T-shaped plastic device that's put into the womb (uterus) by a doctor or nurse. It releases the hormone progestogen to stop one from getting pregnant and lasts for 3 to 5 years, depending on the brand. The IUS is similar to the intrauterine device (IUD), but instead of releasing copper like the IUD, it releases the hormone progestogen into the womb. It thickens the cervical mucus, which makes it more difficult for sperm to move through the cervix, and thins the lining of the womb so an egg is less likely to be able to implant itself.
* **Male condoms:** Condoms are the only type of contraception that can both prevent pregnancy and protect against sexually transmitted infections (STIs). There are two types of condoms: male condoms, worn on the penis; and female condoms, worn inside the vagina. Male condoms are made from very thin latex (rubber), polyisoprene or polyurethane and are designed to stop a man's semen from coming into contact with his sexual partner.
* **Natural family planning:** Natural family planning (or "fertility awareness") is a method of contraception where a woman monitors and records different fertility signals during her menstrual cycle to work out when she's likely to get pregnant. It involves identifying the signs and symptoms of fertility during menstrual cycle in order to plan and avoid pregnancy.
* **Patch:** The contraceptive patch is a small sticky patch that releases hormones into the body through the skin to prevent pregnancy. The patch releases a daily dose of hormones through the skin into the bloodstream to prevent pregnancy. It contains the same hormones as the combined pill – oestrogen and progestogen – and works in the same way by preventing the release of an egg each month (ovulation). It also thickens cervical mucus, which makes it more difficult for sperm to move through the cervix, and thins the womb lining so a fertilized egg is less likely to be able to implant itself.
* **Progestogen-only pill:** The "traditional" progestogen-only pill (POP) prevents pregnancy by thickening the mucus in the cervix to stop sperm reaching an egg. The desogestrel progestogen-only pill can also stop ovulation. Progestogen-only pills contain the hormone progestogen, but don't contain oestrogen. You need to take the progestogen-only pill reliably every day.
* **Vaginal ring:** The vaginal ring (NuvaRing) is a small soft, plastic ring that is placed inside the vagina. It releases a continuous dose of the hormones oestrogen and progestogen into the bloodstream to prevent pregnancy.
* **Female sterilization:** Female sterilisation is an operation to permanently prevent pregnancy. The fallopian tubes are blocked or sealed to prevent the eggs reaching the sperm and becoming fertilized.
* **Vasectomy (male sterilization):** A vasectomy (male sterilisation) is a surgical procedure to cut or seal the tubes that carry a man's sperm to permanently prevent pregnancy. A vasectomy works by stopping sperm getting into a man's semen, the fluid that he ejaculates. The tubes that carry sperm from a man's testicles to the penis are cut, blocked or sealed with heat. This means that when a man ejaculates, the semen has no sperm in it and a woman's egg can't be fertilized.

There are 2 **permanent methods of contraception:**

* female sterilization
* male sterilization (vasectomy)

**FIVE MAJOR CONTRACEPTIVES WITH DETAILED EXPLANATION**

1. **Condoms (male and female):** Condoms are a "barrier" method of contraception. They are made of very thin latex (rubber), polyurethane or polyisoprene and are designed to prevent pregnancy by stopping sperm from meeting an egg. They can also protect against STIs if used correctly during vaginal, anal and oral sex. Make sure that a man's penis does not touch a woman's vagina before a condom has been put on – semen can come out of the penis before a man has fully ejaculated. Condoms come lubricated to make them easier to use.

**Advantages of condoms**

* When used correctly and consistently, they are a reliable method of preventing pregnancy.
* They help to protect both partners from STIs, including chlamydia, gonorrhoea and HIV.
* You only need to use them when you have sex – they do not need advance preparation and are suitable for unplanned sex.
* In most cases, there are no medical side effects from using condoms.
* They are easy to get hold of and come in a variety of shapes, sizes and flavors.

**Disadvantages of condoms**

* Some couples find that using condoms interrupts sex.
* Condoms are very strong but may split or tear if not used properly.
* Some people may be allergic to latex, plastic or spermicides.
* When using a condom, the man has to pull out after he has ejaculated and before his penis goes soft, holding the condom firmly in place.
1. **Diaphragms or cap:** A diaphragm or cap is a barrier method of contraception. It fits inside your vagina and prevents sperm passing through the cervix (the entrance of your womb). You need to use it with a gel that kills sperm (spermicide).

A diaphragm or cap doesn't provide reliable protection against sexually transmitted infections (STIs). You shouldn't use a diaphragm or cap during your period as there is a possible link with toxic shock syndrome (TSS), a rare condition that can be life threatening.

**Advantages of a diaphragm or cap**

* you only need to use a diaphragm or cap when you want to have sex
* you can put it in at a convenient time before having sex
* there are usually no serious associated health risks or side effects
* you're in control of your contraception

**Disadvantages of a diaphragm or cap**

* it's not as effective as other types of contraception, and it depends on you remembering to use it and using it correctly
* it doesn't provide reliable protection against STIs
* it can take time to learn how to use it
* putting it in can interrupt sex
* cystitis (bladder infection) can be a problem for some women who use a diaphragm or cap
* latex and spermicide can cause irritation in some women and their sexual partners
1. **Combined pill:** The pill prevents the ovaries from releasing an egg each month (ovulation). It also; thickens the mucus in the neck of the womb, so it is harder for sperm to penetrate the womb and reach an egg and it thins the lining of the womb, so there is less chance of a fertilized egg implanting into the womb and being able to grow.

The pill is over 99% effective if used correctly. Some women find it difficult to take the pill at the same time every day, and it's less effective if not used correctly.

There are many different brands of pill, made up of three main types:

**Mono-phasic 21-day pills, Phasic 21-day pills and Every day (ED) pills.**

**Advantages of the pill include:**

* it does not interrupt sex
* it usually makes your bleeds regular, lighter and less painful
* it reduces your risk of cancer of the ovaries, womb and colon
* it can reduce symptoms of PMS (premenstrual syndrome)
* it can sometimes reduce acne
* it may protect against pelvic inflammatory disease
* it may reduce the risk of fibroids, ovarian cysts and non-cancerous breast disease

**Disadvantages of the pill include:**

* it can cause temporary side effects at first, such as headaches, nausea, breast tenderness and mood swings – if these do not go after a few months, it may help to change to a different pill
* it can increase your blood pressure
* it does not protect you against sexually transmitted infections
* breakthrough bleeding and spotting is common in the first few months of using the pill
* it has been linked to an increased risk of some serious health conditions, such as thrombosis (blood clots) and breast cancer
1. **Male sterilization (Vasectomy):** A vasectomy is more than 99% effective. It's considered permanent, so once it's done you don't have to think about contraception again.

A vasectomy works by stopping sperm getting into a man's semen, the fluid that he ejaculates. The tubes that carry sperm from a man's testicles to the penis are cut, blocked or sealed with heat. This means that when a man ejaculates, the semen has no sperm in it and a woman's egg can't be fertilized. A vasectomy is a quick and relatively painless surgical procedure.

There are 2 types of vasectomy:

1. a conventional vasectomy using a scalpel (surgical knife)
2. a no-scalpel vasectomy

**Advantages:**

* a vasectomy is more than 99% effective at preventing pregnancy
* long-term effects on your health are rare
* it doesn't affect your hormone levels, sex drive or interfere with sex
* it may be chosen as a simpler and safer alternative to female sterilisation

**Disadvantages:**

* vasectomy doesn't protect against STIs, so you may need to use condoms as well
* a vasectomy can't be easily reversed, and reversals are rarely funded by the NHS
* you need to keep using contraception after the operation until tests show your semen is free of sperm
* possible complications include a collection of blood inside the scrotum (haematoma), hard lumps called sperm granulomas (caused by sperm leaking from the tubes), an infection, or long-term testicle pain (you may need further surgery)
* the vas deferens tubes can reconnect, but this is very rare
1. **Patch:** The contraceptive patch is a small sticky patch that releases hormones into your body through your skin to prevent pregnancy. When used correctly, the patch is more than 99% effective at preventing pregnancy. Each patch lasts for 1 week. The patch releases a daily dose of hormones through the skin into the bloodstream to prevent pregnancy. It contains the same hormones as the combined pill – oestrogen and progestogen – and works in the same way by preventing the release of an egg each month (ovulation). It also thickens cervical mucus, which makes it more difficult for sperm to move through the cervix, and thins the womb lining so a fertilized egg is less likely to be able to implant itself.

**Advantages:**

* it's very easy to use and doesn't interrupt sex
* unlike the combined oral contraceptive pill, you don't have to think about it every day – you only have to remember to change it once a week
* the hormones from the patch aren't absorbed by the stomach, so it still works if you're sick (vomit) or have diarrhea
* it can make your periods more regular, lighter and less painful
* it can help with premenstrual symptoms
* it may reduce the risk of ovarian, womb and bowel cancer
* it may reduce the risk of fibroids, ovarian cysts and non-cancerous breast disease

**Disadvantages:**

* it may be visible
* it can cause skin irritation, itching and soreness
* it doesn't protect you against STIs, so you may need to use condoms as well
* some women get mild temporary side effects when they first start using the patch, such as headaches, sickness (nausea), breast tenderness and mood changes – this usually settles down after a few months
* bleeding between periods (breakthrough bleeding) and spotting (very light, irregular bleeding) is common in the first few cycles of using the patch – this is nothing to worry about if you're using it properly and you'll still be protected against pregnancy
* some medicines can make the patch less effective – see a GP, nurse or pharmacist for advice
* you need to remember to change it every week