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**DEPARTMENT** ANATOMY  
**COURSE** ENDOCRINE AND REPRODUCTIVE PHYSIOLOGY

**COURSE CODE** PHS 204

Discuss contraception and different types with details of any five

Write what you know about contraception and the types you know

Give examples of the types of contraceptives and major on five

Contraception or Fertility control is the use of any method or device to prevent pregnancy. It is also called birth control, family planning or contraception. The techniques used may be temporary or permanent. Several methods are available for fertility control.

Some contraception methods include rhythm method/safe period, mechanical method (via the use of condom), Chemical methods, oral contraceptive, implants, Medical termination of pregnancy, surgical method (sterilization)

### **1)MECHANICAL BARRIERS – PREVENTION OF ENTRY OF SPERM INTO UTERUS**

Mechanical barriers are used to prevent the entry of sperm into uterine cavity. These barriers are called condoms. The male condom is a leak proof sheath, made of latex. It covers the penis and does not allow entrance of semen into the female genital tract during coitus. In females, the commonly used condom is cervical cap or diaphragm. It covers the cervix and prevents entry of sperm into uterus.

### **2)CHEMICAL METHODS**

Chemical substances, which destroy the sperms, are applied in female genital tract before coitus. Destruction of sperms is called spermicidal action. The spermicidal substances are available in the form of foam tablet, jelly, cream and paste.

### **3)ORAL CONTRACEPTIVES (PILL METHOD)**

Oral contraceptives are the drugs taken by mouth (pills) to prevent pregnancy. These pills prevent pregnancy by inhibiting maturation of follicles and ovulation. This leads to alteration of normal menstrual cycle. The menstrual cycle becomes the anovulatory cycle. Pills are called contraceptive pills or birth control pills. These pills contain synthetic estrogen and progesterone. Contraceptive pills are of three types:

1. Classical or combined pills
2. Sequential pills
3. Minipills or micropills.

1. **CLASSICAL OR COMBINED PILLS** Classical or combined pills contain a moderate dose of synthetic estrogen like ethinyl estradiol or mestranol and a mild dose of synthetic progesterone like norethindrone or norgestrol. Pills are taken daily from 5th to 25th day of

menstrual cycle. The withdrawal of the pills after 25th day causes menstrual bleeding. The intake of pills is resumed again after 5th day of the next cycle.

During the continuous intake of the pills, there is relatively large amount of estrogen and progesterone in the blood.

It suppresses the release of gonadotropins, FSH and LH from pituitary by means of feedback mechanism. Lack of FSH and LH prevents the maturation of follicle, and ovulation. In addition, progesterone increases the thickness of mucosa in cervix, which is not favorable for transport of sperm. When the pills are withdrawn after 21 days the menstrual flow starts.

2. **SEQUENTIAL PILLS** Sequential pills contain a high dose of estrogen along with moderate dose of progesterone. These pills also prevent ovulation. Sequential pills are taken in two courses: i. Daily for 15 days from 5th to 20th day of the menstrual cycle and then ii. During the last 5 days, i.e. 23rd to 28th day.

3. **MINIPILLS OR MICROPILLS** Minipills contain a low dose of only progesterone and are taken throughout the menstrual cycle. It prevents pregnancy without affecting ovulation. The progesterone increases the thickness of cervical mucosa, so that the transport of sperms is inhibited. It also prevents implantation of ovum.

#### **DISADVANTAGES AND ADVERSE EFFECTS OF ORAL CONTRACEPTIVES**

Following are the disadvantages and adverse effects of oral contraceptives:

1. Major practical difficulty is the regular intake of the pills
2. May not be suitable for women having disorders such as diabetes, cardiovascular diseases or liver diseases
3. Clotting tendency of blood due to suppressed production of anticoagulants in liver
4. Hypertension and heart attack
5. Increases the risk of stroke
6. Tenderness of breast and risk of breast cancer (but may decrease the risk of ovarian and uterine cancer).

#### **4) MEDICAL TERMINATION OF PREGNANCY (MTP) – ABORTION**

Abortion is done during first few months of pregnancy. This method is called medical termination of pregnancy (MTP). There are three ways of doing MTP

i) **DILATATION AND CURETTAGE (D AND C)** In this method, the cervix is dilated and the implanted ovum or zygote is removed.

ii) **VACUUM ASPIRATION** The implanted ovum is removed by vacuum aspiration method. This is done up to 12 weeks of pregnancy.

iii) **ADMINISTRATION OF PROSTAGLANDIN** Administration of prostaglandin like PGE<sub>2</sub> and PGF<sub>2</sub> intravaginally increases uterine contractions resulting in abortion.

## **5)SURGICAL METHOD (STERILIZATION) – PERMANENT METHOD**

Permanent sterility is obtained by surgical methods. It is also called sterilization.

i)TUBECTOMY in tubectomy, the fallopian tubes are cut and both the cut ends are ligated. It prevents entry of ovum into uterus. The operation is done through vaginal orifice in the postpartum period. During other periods, it is done by abdominal incision. Tubectomy is done quickly (in few minutes) by using a laparoscope. Though tubectomy causes permanent sterility, if necessary recanalization of fallopian tube can be done using plastic tube by another surgical procedure.

ii) VASECTOMY in vasectomy, the vas deferens is cut and the cut ends are ligated. So the sperms cannot enter the ejaculatory duct and the semen is devoid of sperms. It is done by surgical procedure with local anesthesia. If necessary, the recanalization of vas deferens can be done with plastic tube.