

## 4. REPRODUCTIVE HEALTH

### POPULATION STABILIZATION & BIRTH CONTROL

#### Reasons for population explosion

- Increased health facilities and better living conditions.
- Rapid decline in death rate, **maternal mortality rate (MMR)** and **infant mortality rate (IMR)**.
- Increase in number of people in reproductive age.

#### CONTRACEPTIVE METHODS

##### Natural/Traditional methods

Avoid chances of ovum and sperms meeting. It includes

- **Periodic abstinence:** Avoid coitus from day **10 to 17 (fertile period)** of menstrual cycle to prevent conception. Fertile period is the period having chances of fertilization.
- **Coitus interruptus (withdrawal):** Withdraw penis from the vagina just before ejaculation to avoid insemination.
- **Lactational amenorrhea:** It is the absence of menstrual cycle & ovulation due to intense lactation after parturition. Fully breastfeeding increases lactation. This method helps to prevent conception. This is effective up to 6 months following parturition.

Natural methods have no side effect. But chances of failure are high.

##### Barriers

They prevent physical meeting of sperm & ovum. E.g.

- **Condoms (E.g. Nirodh):** Made of rubber/latex sheath. Condoms are very popular because:
  - It protects the user from STDs and AIDS.
  - Easily available and disposable.
- **Diaphragms, cervical caps and vaults:**
  - Made of rubber and are inserted into the female reproductive tract to cover the cervix during coitus.
  - They block the entry of sperms through the cervix.
  - **Spermicidal creams, jellies & foams** are used along with these barriers to increase contraceptive efficiency.

##### Intra Uterine Devices (IUDs)

These are inserted in uterus through vagina. They increase phagocytosis of sperms.

IUDs are ideal method to delay pregnancy or space children.

##### Types of IUDs:

- **Non-medicated IUDs:** They retard sperm motility. Also have spermicidal effect. E.g. Lippes loop.

- **Copper releasing IUDs:** Cu ions suppress motility and fertilising capacity of sperms. E.g. CuT, Cu7, Multiload 375.
- **Hormone releasing IUDs:** They make the uterus unsuitable for implantation and the cervix hostile to the sperms. E.g. Progestasert, LNG-20.

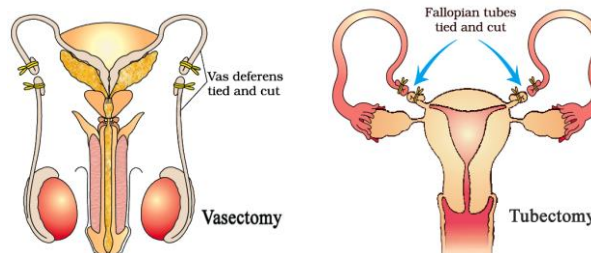


##### Oral contraceptives

- Oral administration of **progestogens** or **progestogen- oestrogen** combinations in the form of tablets (**pills**).
- Pills are taken daily for 21 days starting within the first five days of menstrual cycle. After a gap of 7 days (menstruation period), it should be repeated in the same pattern till the female desires to prevent conception.
- They inhibit ovulation and implantation and thicken cervical mucus to prevent entry of sperms.
- Pills are very effective with lesser side effects.
- **Saheli:** New oral contraceptive for the females. It is developed by **Central Drug Research Institute (CDRI, Lucknow)**. It contains a non-steroidal preparation. It is a 'once a week' pill with very few side effects and high contraceptive value.

##### Surgical methods (sterilization)

- It helps to block gamete transport and thereby prevents conception. It is very effective but reversibility is very poor.
- **Vasectomy:** Sterilization procedure in males. In this, a small part of the vas deferens is removed or tied up through a small incision on the scrotum.
- **Tubectomy:** Sterilization procedure in females. In this, a small part of the fallopian tube is removed or tied up through a small incision in the abdomen or through vagina.



www.bankofbiology.com

### MEDICAL TERMINATION OF PREGNANCY (MTP)

- Intentional or voluntary termination of pregnancy before full term is called **MTP** or **induced abortion**.

#### Importance of MTP

- To avoid unwanted pregnancies due to casual intercourse or failure of the contraceptive used during coitus or rapes.
- It is essential in cases where continuation of pregnancy could be harmful to the mother or to the foetus or both.

#### Problems related with MTPs

- Misuse of **amniocentesis** test for foetal sex determination. If the foetus is female, it is followed by MTP.

**Amniocentesis:** In this, some amniotic fluid of the foetus is taken to analyse the foetal cells & dissolved substances. It is used to test the presence of genetic disorders, survivability of the foetus etc.

## SEXUALLY TRANSMITTED DISEASES (STDs)

- Diseases transmitted through sexual intercourse are called **Sexually transmitted diseases/infections (STDs or STIs)/Venereal diseases (VD) or Reproductive tract infections (RTI)**.
- E.g. Gonorrhoea, syphilis, genital herpes, chlamydia, genital warts, trichomoniasis, hepatitis-B & AIDS.

### • Prevention:

- Avoid sex with unknown partners/multiple partners.
- Always use condoms during coitus.
- In case of doubt, go to a qualified doctor for early detection and get complete treatment.

## INFERTILITY & ASSISTED REPRODUCTIVE TECHNOLOGIES (ART)

- **Infertility** is the inability to conceive or produce children even after 2 years of unprotected sexual cohabitation.
- The reasons for this may be physical, congenital, diseases, drugs, immunological or even psychological.
- The technologies used to correct the infertility problems are called **Assisted Reproductive Technologies (ART)**. Some of them are given below: [www.bankofbiology.com](http://www.bankofbiology.com)

### 1. *In vitro* fertilisation (IVF) or Test tube baby programme

In this method, ova from the wife/donor and sperms from the husband/donor are collected and are induced to form zygote under simulated conditions in the laboratory. This is followed by **Embryo transfer (ET)**.

ET is 2 types:

- **Zygote Intra Fallopian Transfer (ZIFT)**: Transfer of zygote or early embryo (with up to 8 blastomeres) into fallopian tube.
- **Intra Uterine Transfer (IUT)**: Transfer of embryo with more than 8 blastomeres into the uterus.

Embryo formed by *in vivo* fertilisation (fertilisation within the female) is also used for such transfer to assist those females who cannot conceive.

### 2. Gamete Intra Fallopian Transfer (GIFT)

Transfer of an ovum from a donor into the fallopian tube of another female who cannot produce ovum, but can provide suitable environment for fertilization and development.

### 3. Intra cytoplasmic sperm injection (ICSI)

It is a laboratory procedure in which a single sperm (from male partner) is injected directly into an egg (from female partner). After fertilization, the embryo is implanted into the woman's uterus.

### 4. Artificial insemination (AI) technique

The semen collected from husband or a donor is artificially introduced into the vagina or the uterus of the female.

Artificial insemination into the uterus is known as **intra-uterine insemination (IUI)**.

This technique is useful for the male partner having inability to inseminate female or low sperm counts etc.

### Problems of ART

- It needs specialized professionals & expensive instruments. So these facilities are available only in very few centres.
- Emotional, religious and social problems.

**Legal adoption** is a good method for couples looking for parenthood.

[www.bankofbiology.com](http://www.bankofbiology.com)

**WANT ALL CHAPTERS? [Click Here](#)**

Visit: [www.bankofbiology.com](http://www.bankofbiology.com)

[Bio Master YouTube channel](#)

**For Exam Special Resources Click the Links below:**

[👉 +2 PREVIOUS YEARS QUESTION PAPERS & ANSWERS](#)

[👉 +1 PREVIOUS YEARS QUESTION PAPERS & ANSWERS](#)

[👉 CHAPTER-WISE Q & A, ONLINE UNIT TESTS](#)

[👉 HSE \(+1, +2\) MODEL QP & ONLINE EXAM SERIES](#)

[👉 EXAM CAPSULE NOTES](#)

[👉 EXAM CAPSULE VIDEOS](#)