

# CHAPTER 3

## Reproductive Health

**According to the WHO:** Reproductive health means a total well-being in all aspects of reproduction, such as physical, emotional, behavioural, and social. Therefore, a society with people having physically and functionally normal reproductive organs and normal emotional and behavioural interactions among them in all sex-related aspects might be called **reproductively healthy**.

### REPRODUCTIVE HEALTH PROBLEMS AND STRATEGIES

- India was amongst the first countries in the world to initiate action plans and programmes at a national level to attain total reproductive health as a social goal.
- These programmes called "**Family Planning**" were initiated in **1951**.
- Improved programmes covering wider reproduction-related areas are currently in operation under the popular name **Reproductive and Child Health Care (RCH) programmes**.
- Creating awareness among the people about various reproduction-related aspects and providing facilities and support for building up a reproductively healthy society are the major tasks under these programmes.

### STEPS TO ACHIEVE REPRODUCTIVE HEALTH

- Use of audio, video, and the print media by both governmental and non-governmental agencies.
- Sex education needs to be introduced in schools and colleges.
- Young adults and children must be provided with correct information by responsible adults, teachers, parents, close relatives, and friends along with open dialogues to make them aware of reproductive health.
- Awareness must be created about STDs (Sexually Transmitted Diseases).
- There is a need to educate people about birth control options, care of pregnant mothers, pre and post-natal care of mother and child, importance of breast feeding, equal opportunities for male and female children, especially for fertile couples and marriageable age group, etc. All these will result in the development of a healthy society and families.
- People must be made aware of the problems related to population explosion; sex-related information should be provided in society.
- To provide medical assistance and care to people in reproduction-related problems like pregnancy, delivery, STD, abortion, contraception, menstrual problems, infertility, etc.
- Providing information about contraceptive methods.
- Ban on female foeticide and amniocentesis for sex determination.
- Awareness of problems due to uncontrolled population growth, social evils like sex abuse, and sex-related crimes, etc., need to be created to enable people to think and take up necessary steps to prevent them, thereby building up a socially responsible and healthy society.

## HEALTH RELATED PROBLEMS

- Lack of knowledge about Sexually Transmitted Diseases (STDs).
- Lack of knowledge about contraceptive methods.
- Not taking care of personal hygiene during menstruation.
- Not taking care of health during pregnancy.

**Amniocentesis:** It is a test done during pregnancy. In this test, some amniotic fluid of the developing foetus is taken to analyse the fetal cells and dissolved substances. This procedure is used to legally check/test the presence of certain genetic disorders such as Down syndrome, Haemophilia, Sickle cell anemia, etc.

**Note:** The gender of the foetus is determined by amniocentesis, and female foeticide is performed; hence, this test is restricted (banned) for sex determination.

For the promotion of reproductive health, the **Central Drug Research Institute (CDRI), Lucknow**, discovered an oral contraceptive pill called '**Saheli**'.

## POPULATION EXPLOSION

- Rapid increase or growth in population is called **population explosion**.
- The population of the world was 2 Billion in 1900.
- The population of the world was 6 Billion in 2000.
- The population of the world was 7.2 Billion in 2011.
- The population of India was 35 crore at the time of independence, but reached 100 crore in 2000.
- The population of India was 1.2 Billion in 2011.
- Annual population growth rate in India was approximately 2.1%.

### Causes of Population Growth

1. Good living conditions and health facilities.
2. A rapid decline in death rate, Maternal Mortality Rate (MMR), and Infant Mortality Rate (IMR).
3. Increase in reproductive age group of people.

### Population Control Methods

1. Follow the slogan "*Hum Do, Hamare Do*" (Small family).
2. Fixing the age of marriage at 18 years for women and 21 years for men.
3. To encourage small families.
4. Using contraceptive methods to avoid unwanted pregnancy.
5. Giving information/education about sex education.

## PROPERTIES OF AN IDEAL CONTRACEPTIVE

1. It should be user-friendly, easily available, effective, and with no side effects or least side effects.
2. It should be reversible.
3. It should in no way interfere with the sexual drive, desire, and sexual act of the user.

## CONTRACEPTIVE METHODS

Presently available methods can be broadly grouped into the following categories:

**Natural/Traditional, Barrier, IUDs, Oral Contraceptives, Injectables, Implants, and Surgical Methods.**

### 1. Natural / Traditional Contraceptive Methods

This method works on the principle of avoiding chances of ovum and sperm meeting.

- **Periodic Abstinence:** Couples avoid or abstain from coitus from day 10 to 17 of the menstrual cycle when ovulation could be expected. As chances of fertilisation are very high during this period, it is called the '**Fertile Period**'. Therefore, by abstaining from coitus during this period, conception could be prevented.
- **Withdrawal or Coitus Interruptus:** In this method, the male partner withdraws his penis from the vagina just before ejaculation so as to avoid insemination.
- **Lactational Amenorrhea:** (Absence of menstruation) After parturition, ovulation and menstrual cycle do not occur as long as the mother breastfeeds the child fully. This period is effective up to maximum 6 months.

*Note:* Medicines and devices are not used in these methods; side effects are almost nil. However, chances of failure of this method are high.

### 2. Barrier Methods

Devices that prevent the physical meeting of the sperm and the ovum are called **Barriers**. Barriers are available for both males and females (e.g., Condoms).

- **Condoms:** Made of thin rubber/latex sheath used to cover the penis in the male or cervix/vagina in the female just before coitus so that ejaculated semen does not enter into the female reproductive tract.
  - "*Nirodh*" is a popular brand of condom for males.
  - Use of condoms has increased in recent years due to its additional benefit of protecting the user from contracting STIs (Sexually Transmitted Infections).
  - Both male and female condoms are disposable, can be self-inserted, thereby giving privacy to the user.
- **Other Rubber Barriers:** Diaphragms, cervical caps, and vaults are barriers made of rubber inserted into the female reproductive tract to cover the cervix during coitus. They prevent conception by blocking the entry of sperms through the cervix. They are reusable.
- **Spermicidal creams, jellies, and foams** are usually used along with these barriers to increase their contraceptive efficiency.

### 3. Intra Uterine Devices (IUDs)

Devices inserted by doctors or expert nurses in the uterus through the vagina are called IUDs. These include:

- **Non-Medicated IUDs:** e.g., Lippes Loop.
- **Copper Releasing IUDs:** Release  $\text{Cu}^{2+}$  ions which increase phagocytosis of sperms within the uterus.  $\text{Cu}^{2+}$  ions also suppress sperm motility and the fertilising capacity of sperms. e.g., Copper-T (CuT), Copper-7 (Cu7), Multiload 375.
- **Hormone Releasing IUDs:** Make the uterus unsuitable for implantation and the cervix hostile to sperms. e.g., Progestasert, LNG-20 (Levonorgestrel-20).

IUDs are ideal contraceptives for females who want to delay pregnancy or space children. It is one of the most widely accepted methods of contraception in India.

### 4. Chemical & Hormonal Contraceptive Methods

Chemical substances used in the form of tablets are popularly called **Pills**. Pills contain either progestogens or progestogen-estrogen combinations.

| Pills (Oral Administration)                                                                                                                                                                                                                                      | Injections / Implants                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• <b>Daily Pills:</b> Taken daily for 21 days starting from the first 5 days of menstrual cycle (e.g., Mala-D, Mala-N).</li><li>• <b>Weekly Pills:</b> Non-steroidal, taken once a week (e.g., Saheli / Chhaya).</li></ul> | <ul style="list-style-type: none"><li>• Used as injections or implants under the skin.</li><li>• Contain progestogens or progestogen-estrogen combinations.</li><li>• Used as emergency contraceptives within 72 hours of coitus (e.g., Unwanted 72, I-Pill).</li></ul> |

**Saheli:** An oral contraceptive for females containing a non-steroidal preparation. It is a 'once a week' pill with very few side effects and high contraceptive value.

**Functions of Pills:** Inhibit ovulation and implantation, as well as alter the quality of cervical mucus to prevent/retard the entry of sperms. They are very effective with lesser side effects and well accepted by females.

### 5. Surgical Methods (Sterilisation)

It is a permanent contraceptive method advisable as a terminal method to prevent any more pregnancies. It blocks gamete transport and thereby prevents conception.

- **Vasectomy:** Sterilisation procedure in males. A small part of the vas deferens is removed or tied up through a small incision on the scrotum.
- **Tubectomy:** Sterilisation procedure in females. A small part of the fallopian tube is removed or tied up through a small incision in the abdomen or through vagina.

**Note:** These techniques are highly effective, but their reversibility is very poor.

## POSSIBLE SIDE EFFECTS OF CONTRACEPTIVES

1. Nausea, abdominal pain, breakthrough bleeding, irregular menstrual bleeding, or even breast cancer.
2. Risk of ovary, fallopian tube, or uterus related complications.

## MEDICAL TERMINATION OF PREGNANCY (MTP)

Voluntary or intentional termination of pregnancy before full term is known as **MTP** or **induced abortion**. Nearly 45 to 50 million MTPs are performed in a year all over the world, which accounts for 1/5th of the total number of conceived pregnancies in a year.

- **Government of India legalised MTP in 1971** with strict conditions to avoid its misuse (e.g., to prevent female foeticide).
- MTP is not legalised in many countries due to emotional, ethical, religious, and social issues involved in it.
- **Why MTP is necessary:** To get rid of unwanted pregnancies caused due to unprotected intercourse, failure of contraceptive used during coitus, or rapes. It is also essential in cases where continuation of pregnancy could be harmful or fatal to the mother or to the foetus (or both).
- MTPs are considered relatively safe during the **1st trimester** (up to 12 weeks of pregnancy). Second trimester abortions are much more risky.

## SEXUALLY TRANSMITTED INFECTIONS (STIS)

Infections or diseases transmitted through sexual intercourse are collectively called STIs, Venereal Diseases (VD), or Reproductive Tract Infections (RTI).

**Examples:** Gonorrhoea, Syphilis, Genital Herpes, Chlamydiasis, Genital Warts, Trichomoniasis, Hepatitis-B, and AIDS (Acquired Immuno Deficiency Syndrome caused by HIV - Human Immunodeficiency Virus).

- HIV infection is the most dangerous STI.
- STIs are most prevalent among young people in the age group of **15–24 years**.

### Symptoms of STIs

- **Initial Symptoms:** Fluid discharge, slight pain, swelling, itching in genital region, burning sensation during urination.
- **Later Symptoms (if untreated):** Pelvic Inflammatory Diseases (PID), abortions, still births, ectopic pregnancies, infertility, or even cancer of the reproductive tract.

### Prevention of STIs

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

4. Avoid transfusion of blood from infected persons.
5. Avoid sharing injection needles/syringes with an infected person.

## INFERTILITY

Infertility is defined as the inability of a couple to conceive or produce children even after 2 years of unprotected sexual coitus. A large number of couples all over the world, including India, are infertile. The reasons could be physical, congenital, diseases, drugs, immunological, or psychological.

## ASSISTED REPRODUCTIVE TECHNOLOGIES (ART)

Specialised techniques used to help infertile couples have children are called ART. These include:

- **In Vitro Fertilisation (IVF):** Fertilisation occurs outside the body in simulated conditions in the laboratory, followed by embryo transfer (popularly known as the *Test Tube Baby* programme).
  - Ovum from wife/donor and sperm from husband/donor are collected and induced to form a zygote under lab conditions.
  - **ZIFT (Zygote Intra Fallopian Transfer):** Zygote or early embryo with up to 8 blastomeres is transferred into the fallopian tube.
  - **IUT (Intra Uterine Transfer):** Embryo with more than 8 blastomeres is transferred directly into the uterus.
- **In Vivo Fertilisation:** Fusion of gametes occurs inside the body of the female. Embryos formed by in vivo fertilisation can also be used for transfer.
- **GIFT (Gamete Intra Fallopian Transfer):** Transfer of an ovum collected from a donor into the fallopian tube of another female who cannot produce one, but can provide suitable environment for fertilisation and further development.
- **ICSI (Intra Cytoplasmic Sperm Injection):** A specialised procedure to form an embryo in the lab in which a sperm is directly injected into the ovum.
- **Artificial Insemination (AI):** In this technique, semen collected from husband or a healthy donor is artificially introduced into the vagina or into the uterus (**IUI - Intra Uterine Insemination**) of the female.
  - Useful in cases where the male partner is unable to inseminate or has a very low sperm count in the ejaculate.