

REPRODUCTIVE HEALTH

According to **World Health Organisation (WHO)**, **Reproductive health** is a total well-being in all aspects of reproduction i.e., physical, emotional, behavioural & social.

REPRODUCTIVE HEALTH: PROBLEMS & STRATEGIES

India initiated reproductive health programmes (**family planning**) in 1951.

Wider reproduction-related areas are in operation under the **Reproductive & Child Health Care (RCH) programmes**. Such programmes deal the following:

- Give awareness about reproduction related aspects for creating a reproductively healthy society.

- Educate people about birth control, care of pregnant mothers, post-natal care of mother and child, importance of breast feeding, equal opportunities for male & female child etc.
- Awareness of problems due to population explosion, social evils like sex-abuse and sex-related crimes, etc.

Aims and needs of sex education in schools

- To provide right information about sex-related aspects. It helps to avoid sex-related myths and misconceptions.
- To give proper information about reproductive organs, adolescence and related changes, safe and hygienic sexual practices, sexually transmitted diseases (STD), AIDS etc.

POPULATION STABILIZATION & BIRTH CONTROL

- In **1900**, world population was about **2 billion**. By **2000**, it rocketed to about **6 billion** and **7.2 billion in 2011**.
- In India, population was nearly **350 million** at the time of independence. It reached **1 billion by 2000** and crossed **1.2 billion in May 2011**. It means every sixth person in the world is an Indian.
- According to the 2011 census report, our population growth rate was less than **2%** (i.e. 20/1000/year), a rate at which our population could increase rapidly.

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.

Impacts of population explosion

Scarcity of basic requirements (e.g. food, shelter & clothing).

Control measures

- Motivate smaller families by using **contraceptive methods**.
- Aware peoples about a slogan **Hum Do Hamare Do (we two, our two)**. Many couples have adopted a '**one child norm**'.
- Statutory rising of marriageable age of females (18 years) and males (21 years).

Properties of an ideal contraceptive

- User-friendly, easily available, effective and reversible.
- No or least side-effects.
- It should not interfere with sexual drive, desire & sexual act.

CONTRACEPTIVE METHODS

1. Natural/Traditional methods

Avoid chances of ovum and sperms meeting. It includes

- **Periodic abstinence**: Avoid coitus from day 10 to 17 of the menstrual cycle (**fertile period**) to prevent conception.
- **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. It has no side effect. But chances of failure are high.

2. Barriers

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

- **Condoms (E.g. Nirodh)**: Made of rubber/latex sheath.
Condoms for male: Cover the penis.
Condoms for female: Cover the vagina & cervix.
Condoms are used just before coitus. They prevent the entry of semen into female reproductive tract.
Condoms are very popular because:
 - It protects the user from STDs and AIDS.
 - Easily available and disposable.
 - It can be self-inserted and thereby give privacy to user.
- **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.
 - They are reusable.
- **Spermicidal creams, jellies & foams** are used along with these barriers to increase contraceptive efficiency.

3. Intra Uterine Devices (IUDs)

These are inserted by doctors or nurses in the 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.

4. 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)** in **Lucknow**. It contains a non-steroidal preparation. It is a 'once a week' pill with very few side effects and high contraceptive value.

5. Injectables

- Progestogens or Progestogens-oestrogen combination are used by females as **injections** or **implants** under skin.
- Their mode of action is like that of pills and their effective periods are much longer.

*Progestogens or progestogen-oestrogen combinations & IUDs are used as **emergency contraceptives** within 72 hours of coitus. It avoids pregnancy due to rape or casual intercourse.*

6. Surgical methods (sterilization)

- It helps to block gamete transport and thereby prevents conception. It is very effective but reversibility is 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.

Side effects of anti-natural contraceptives:

Nausea, abdominal pain, breakthrough bleeding, irregular menstrual bleeding, breast cancer etc.

MEDICAL TERMINATION OF PREGNANCY (MTP)

- Intentional or voluntary termination of pregnancy before full term is called **MTP** or **induced abortion**.
- **45 to 50 million** MTPs are performed in a year all over the world (i.e. 1/5th of total number of conceived pregnancies).
- MTP helps to decrease the population.
- Many countries have not legalised MTP due to emotional, ethical, religious and social issues.
- Government of India legalised MTP in 1971 with some strict conditions to check illegal female foeticides.

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.

MTPs are safe during the **first trimester**, (up to 12 weeks of pregnancy). 2nd trimester abortions are very risky.

Problems related with MTPs

- Majority of the MTPs are performed illegally.
- Misuse of **amniocentesis** test for foetal sex determination. If the foetus is female, it is followed by MTP. Such practices are dangerous for the young mother and foetus.

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.

Government of India enacted **The Medical Termination of Pregnancy (Amendment) Act, 2017** to reduce illegal abortion and consequent maternal mortality and morbidity. According to this Act, a pregnancy may be terminated within the first 12 weeks on the opinion of a registered medical practitioner. If the pregnancy is between 12 - 24 weeks, two registered medical practitioners must be of the opinion.

SEXUALLY TRANSMITTED DISEASES (STDs)

- Diseases or infections transmitted through sexual intercourse swellings, etc. in the genital region. are called **Sexually transmitted diseases/infections (STDs)** or **STIs/Venereal diseases (VD) or Reproductive tract infections (RTI)**. E.g. Gonorrhoea, syphilis, genital herpes, leads to **pelvic inflammatory diseases (PID)**, infertility, chlamydisis, genital warts, trichomoniasis, hepatitis-B & ectopic pregnancies, abortions, still births, cancer of the HIV leading to AIDS.
- Hepatitis-B & HIV are also transmitted
 - By sharing of injection needles, surgical instruments etc.
 - By transfusion of blood.
 - From infected mother to foetus.
- Except hepatitis-B, genital herpes & HIV, other diseases are completely curable if detected early and treated properly.
- **Early symptoms:** Itching, fluid discharge, slight pain,
- **Absence or less significant early symptoms and the social stigma deter the infected persons to consult a doctor. This infections**
- **All persons are vulnerable to STDs. These are very high among persons in the age group of 15-24 years.**
- **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

- It 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.

ASSISTED REPRODUCTIVE TECHNOLOGIES (ART)

These are the technologies used to correct the infertility problems. Some of them are given below:

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 requires specialized professionals and expensive instrumentation. Therefore, 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.

MODEL QUESTIONS

1. Is sex education necessary in school? Justify your answer.
2. Removal of gonads cannot be considered as contraceptive method. Why?
3. Match the following

A	B	C
Lactational amenorrhea	Vasectomy	'Once a week'
IUD	<i>Saheli</i>	Breastfeeding
Sterilization	Natural method	Lippes loop
Oral contraceptive	Inserts in uterus	Reversibility is poor

4. Note the relationship between the first two words and fill up the fourth place
 - a. Male: vasectomy Female:
 - b. LNG-20: Hormone releasing IUD Multiload 375:
 - c. IUD: Intra-uterine device IUI:
5. Condoms are more popular than other contraceptive devices. Give reasons (any 4)
6. Consider the following contraceptive methods.
Lactational amenorrhea, Condoms, Oral contraceptive pills
 - a) Which method, in your opinion, is more desirable? Why?
 - b) Mention 2 methods of contraception like Lactational amenorrhea. What is the advantage of these methods?
7. Match the following

A	B	C
ZIFT	More than 8 blastomeres	Direct injection of sperm into egg
GIFT	Very low sperm count	Embryo to oviduct
IUT	Up to 8 blastomeres	Ovum to oviduct
ICSI	Transfer of egg	Uterus

8. Expand the following
 - a) IVF
 - b) ZIFT
 - c) GIFT
 - d) ICSI
9. "Female foeticide is very high in India. So MTP (Induced abortion) must be completely banned". Do you agree with this statement? Why?
10. Anil said that IUD, IUT and IUI are the three methods of ART.
 - a. Do you agree with this statement? Justify.
 - b. Expand the above abbreviations.
11. A person is affected with itching, fluid discharge, swelling etc. in his genital region. But he did not consult a doctor.
 - a. Mention the type of disorder affected him.
 - b. Can you give any advice to him about the importance of consulting the doctor?
 - c. How to prevent such type of diseases?