

CHAPTER-3

REPRODUCTIVE HEALTH



Revision Notes

► Reproductive Health

- The term 'reproductive health' simply refers to healthy reproductive organs with normal functions. According to WHO (World Health Organisation), the word 'reproductive health' means a total well-being in all aspects of reproduction i.e., physical, emotional, behavioural and social.
- Thus, 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.

► Problems Associated with Reproductive Health :

- (a) Rapid increase in the human population is called population explosion.
- (b) Lack of awareness and sex education in people.
- (c) Spread of myths and misconceptions about sex-related aspects.
- (d) Common occurrence of sexually transmitted diseases due to lack of knowledge of hygiene of reproductive organs.
- (e) Illegal abortions and female foeticides.
- (f) Sex abuse and sex-related crime.

► Strategies of Reproductive Health Programmes: To ensure total reproductive health, several programmes like reproductive health programmes and family planning were started in 1951.



Key Words

Foeticide : Destruction or abortion of a foetus.

Pre-natal : Before birth

Post-natal : After birth

► The aims of Reproductive and Child Care Programmes :

- (a) **Create awareness** in both males and females about various reproductive aspects with the help of audio-visual and print media by both Government and Non-Government agencies.

- (b) Provide **sex education** in schools to save the young generation from myths and misconceptions about sex related issues.
- (c) **Prevention and control of sexually transmitted diseases** by providing the correct information about reproductive organs, adolescence and safe and hygienic sexual practices.
- (d) **Educate the fertile couples** and those in marriageable age about birth control devices, **pre-natal** and **post-natal** care of mother and child, importance of breast-feeding, etc.
- (e) Provide awareness about **ill-effects of population explosion, sexual abuses, sex discrimination and sex related crimes**.
- (f) **Provide medical facilities and support** like infra structural facilities, professional expertise and material support to decrease maternal and infant mortality rates.
- (g) Reduce the **problem of infertility** by promoting Assisted Reproductive Techniques (ARTs).

► **Steps Taken to Maintain a Reproductively Healthy Society**

1. Imposing a statutory ban on amniocentesis (analysis of amniotic fluid-Foetal Sex Determination.)
2. Rigorous implementation of **immunisation** programs.
3. Creation of specialised health centres like infertility clinic for diagnosis and corrective treatment of some infertility disorders.
4. Better awareness about sex-related matters and sex-related problems, etc.
5. Increase in the number of medically assisted deliveries and better post-natal care.
6. Increase in the number of couples with small families.
7. Early detection and cure of STDs.

► **Reasons for Population Explosion** : Tremendous increase in size and growth rate of population is called population explosion. It is due to :

1. Rapid decline in death rate.
2. More longevity, longer life span.
3. Advanced medical facilities.
4. Prevention of diseases.
5. Developed techniques in agriculture.
6. Better transport facilities.
7. Protection from natural factors.
8. Increase in the number of people of reproductive age.

► **Consequences of Population Explosion** : Poverty, unemployment, shortage of food, unhygienic conditions, education problems, residential problems, pollution, crime, excessive consumption of natural resources etc.

► **How to Control Over Population ?**

- (i) People should be given education regarding the advantages of small family and family planning methods.
- (ii) Increasing the age of marriage.
- (iii) Incentives to those families, who are adopting family planning methods.
- (iv) Birth control through vasectomy and tubectomy.
- (v) Family planning programmes with the slogan '**Hum Do Hamare Do**'.

► **Birth Control Measures :**

The most important step to overcome this problem is to encourage smaller families by using various contraceptive methods. The contraceptive methods help to prevent unwanted pregnancies.

► **An ideal contraceptive should be**

- User-friendly, easily available, effective and reversible.
- With no or least side-effects.
- Non-interfering with sexual drive, desire & sexual act.



Key Words

Immunisation : A process of making an individual immune to infection (Protecting against disease by the use of vaccine)

Abstinence : Practice of refraining oneself from sexual intercourse, stimulants, food etc.

► They are grouped as follows :

1. **Natural or Traditional Methods** : These methods of birth control depend upon the natural rhythm of a woman. These include the following methods :

(a) **Coitus interruptus** : This involves withdrawing the penis by the male partner before ejaculation so that semen is not deposited in the vagina. It is the oldest method of voluntary fertility control. This method has certain limitations:

- Some sperms may be deposited in the vagina even before the sexual climax.
- May develop physiological and psychological problems for both partners.

- (b) **Periodic abstinence** : A week before and a week after the menstrual phase are supposed to be safe periods for sexual intercourse. It reduces the chances of pregnancy by about 80 percent.
The period from 10th to 17th day (both days included) of the menstrual cycle is called danger or risk or fertile period and unprotected sexual intercourse should be avoided during this period.
- (c) **Lactational amenorrhea** : It has been noticed that during the period of intense lactation after the parturition, the mother does not undergo menstruation and ovulation so, the chances of conception are nearly nil. It also has no side effects but it is effective only up to a maximum period of six months after parturition.
2. **Artificial Methods** : This involves mechanical or barrier methods.
- (a) **Condoms** : These are rubber or latex sheaths that are put on the penis before coitus (copulation). These are popularly called 'Nirodh'. These check pregnancy by preventing the deposition of sperms in the vagina. These can be self-inserted to give privacy to the user. These also prevent the spread of sexually transmitted diseases (STDs) including AIDS, syphilis, etc. Female condoms are also available called femidoms.
- (b) **Diaphragms and cervical caps** : These are mechanical barriers made of rubber and fitted in the vagina of a female to check the entry of sperms in the uterus. These are reusable.
- (c) **Intra Uterine Devices (IUDs)** : These are inserted by doctors or expert nurses in the uterus through the vagina. These include :
- Non-medicated IUDs (e.g., Lippes loop)
 - Copper releasing IUDs (e.g., Copper T)
 - Hormone releasing IUDs (e.g., Progestogen) : Make the uterus unsuitable for **implantation** and the cervix hostile to the sperms.
 - IUDs increase the phagocytosis of sperms. The Cu ions suppress the motility and fertilising capacity of sperms.
 - IUDs are ideal contraceptives for females who want to delay pregnancy or spacing in children.
3. **Chemical Methods** : These are of the following types :
- (i) **Spermicidal tablets, jellies, paste and creams** introduced in the vagina before coital activity. These kill sperms. Common spermicidal chemicals used are lactic acid, citric acid, potassium permanganate, zinc sulphate etc.
- (ii) **Physiological (Oral) Devices** : These are the hormonal preparation in the form of pills for females.
- The pills are usually small doses of progestogens or progestogen-estrogen combinations in the form of tablets (pills).
 - Pills are taken daily for 21 days starting within the first five days of the menstrual cycle. After a gap of 7 days (during which **menstruation** occurs) it has to be repeated in the same pattern as long as the female desires to prevent conception.
 - They inhibit ovulation and implantation as well as alter the quality of cervical mucus to prevent the entry of sperms.
 - Pills are very effective with lesser side effects.
 - **Saheli** : It is a new oral contraceptive for females. It was developed by the **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.
 - **Drawbacks of Oral Contraceptives** : Nausea, abdominal pain, breakthrough bleeding, irregular menstrual bleeding, breast cancer etc.
- (iii) **Injectables/Implants**
- Progestogens alone or in combination with an oestrogen is used by females as injections or implants under the skin.
 - Their mode of action is similar to that of pills and their effective periods are much longer. These are also effective within 72 hours of coitus. Thus it has been found to very effective as emergency contraceptives.



Key Words

Implantation : The attachment of fertilised egg to the wall of uterus at the beginning of pregnancy.

Menstruation: Vaginal bleeding in women as a part of monthly cycle.

Coitus: Sexual intercourse

4. **Sterilisation or Surgical Methods** : These methods block gamete transport and so prevent conception. These include the following measures :
- (a) **Male sterilisation** : It is a permanent method of birth control in which either testes are surgically removed, called castration, or cutting of the vas deferens, called **Vasectomy**. The vas deferens is exposed and cut through a small incision on the scrotum to prevent the passage of sperms.
- (b) **Female sterilisation** : Methods of female sterilisation include :
- (i) Ovariectomy involves surgical removal of ovaries.
- (ii) **Tubectomy** involves cutting or tying up of fallopian tubes through a small incision in the abdomen or through vagina.
- (iii) Tubal ligation involves blocking of fallopian tubes by an instrument called a laparoscope.

► **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 the total number of conceived pregnancies).
- MTP helps to decrease the population.
- Because of emotional, ethical, religious and social issues many countries have not legalised MTP.
- Government of India legalised MTP in 1971 with some strict conditions to check indiscriminate and illegal female foeticides which are reported to be high in India.

► **Importance of MTP**

- To avoid unwanted pregnancies due to casual intercourse or failure of the contraceptive used during **coitus or rapes**.
- Essential in cases where continuation of the 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 to MTPs**

- Majority of the MTPs are performed illegally.
- Misuse of amniocentesis (a foetal sex determination test based on the chromosomal pattern in the amniotic fluid).
- MTP for a female child causes sex imbalance in society.

► **Amniocentesis**

- It is a prenatal diagnostic method to determine the sex of the developing baby. This method has both positive and negative application. This method is legally banned in India.

(a) **Positive application**

- It helps to detect any genetically controlled congenital disease or any metabolic disorders in the foetus.

(b) **Negative application**

- People use this method for female foeticide, which causes sex imbalance in society.

► **Sexually Transmitted Diseases (STDs)**

- **Diseases transmitted through sexual intercourse are called Sexually transmitted diseases (STDs)/Venereal diseases (VD) or Reproductive tract infections (RTI).** e.g., Gonorrhoea, syphilis, genital herpes, **chlamydia**, genital warts, trichomoniasis, hepatitis-B and HIV leading to AIDS.
- **Hepatitis-B and HIV are also transmitted:**
 - (a) By sharing of injection needles, surgical instruments, etc.
 - (b) By transfusion of blood.
 - (c) From infected mother to foetus.
- Except Hepatitis B, genital herpes, HIV and other diseases are completely curable if detected early and treated properly.
- **Early symptoms :** Itching, fluid discharge, slight pain, swellings, etc., in the genital region.
- Absence or less significant early symptoms and the social stigma deter the infected persons to consult a doctor. This leads to pelvic inflammatory diseases (PID), abortions, stillbirths, ectopic pregnancies, infertility, cancer of the reproductive tract, etc.
- All persons are vulnerable to STDs. These are very high among persons in the age group of 15-24 years.
- **Prevention :**
 - (a) Avoid sex with unknown partners/multiple partners.
 - (b) Always use condoms during coitus.
 - (c) In case of doubt, go to a qualified doctor for early detection and get complete treatment.

► **Infertility**

- It is the inability of male or female to produce children.
- The reasons for this may be physical, congenital, diseases, drugs, immunological or even psychological.

► **Assisted Reproductive Technologies (ART)**

(1) **In vitro fertilisation (IVF- 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). It is of 2 types :

- (a) **Zygote Intra Fallopian Transfer (ZIFT) :** Transfer of zygote or early embryos (with up to 8 blastomeres) into the fallopian tube.
- (b) **Intra Uterine Transfer (IUT) :** Transfer of embryos with more than 8 **blastomeres** into the uterus. The embryo formed by *in vivo* fertilisation (fertilisation within the female) is also used for such transfer to assist those females who cannot conceive.



Key Words

Chlamydia : A sexually transmitted disease caused by the bacteria *chlamydia trachomatis*. The disease infects both men and women.

Blastomeres : Cells formed by the cleavage of zygote or fertilised ovum which later produce morula.

(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 a suitable environment for fertilisation and development.

(3) **Intra Cytoplasmic Sperm Injection (ICSI)** : A laboratory procedure in which a single sperm (from a male partner) is injected directly into an egg (from a female partner). Then the fertilised egg is implanted into the woman's uterus.

(4) **Artificial Insemination (AI) technique:**

- The semen collected from the husband or a healthy donor is artificially introduced into the vagina or the uterus (IUI- intra-uterine insemination) of the female.
- This technique is useful for the male partner having an inability to inseminate female or low sperm counts, etc.

(5) **Surrogacy**

- Here, a woman (surrogate mother) bears a child for a couple unable to produce children, because the wife is infertile or unable to carry.
- The surrogate is impregnated either through artificial insemination or through the implantation of an embryo produced by *in vitro* fertilisation.

► **Problems of ART**

- It requires high precision handling by specialized professionals and expensive **instrumentation**. Therefore, these facilities are available only in very few centres and are affordable to only a limited number of people.



Key Word

Instrumentation: The use or application of instruments to carry out some specific task.



Mnemonics

Concept: Sexually Transmitted Diseases (STDs)

Mnemonics: Haryana Government School Head Girl

Interpretations: Hepatitis B, Genital herpes, Syphilis HIV, Gonorrhoea.