

4. REPRODUCTIVE HEALTH

✚ **Reproductive health** refers to a total well-being in all aspects of reproduction, i.e., physical, emotional, behavioural and social: WHO

REPRODUCTIVE HEALTH – PROBLEMS & STRATEGIES

✚ India (first nation) initiated reproductive health programmes (*family planning*) in 1951. Currently named as ‘Reproductive & Child Health Care (RCH) programmes’ (1997).

Social Problems regarding reproductive health:-	RCH Strategies:-
1. Myths and misconceptions about reproduction -related aspects. 2. Sex-related crimes	A. Create awareness among the people with the help of media of both governmental and non-governmental agencies. B. Introduction of sex education in schools.
3. Unhealthy children	A. Provide medical help for delivery, menstrual problems etc. B. Educate care of pregnant mother, post-natal care of mother and child, importance of breast-feeding. C. Provide immunisation .
4. Infertility	A. Provide medical assistance in diagnosis and corrective treatment. B. Encourage research to find out better techniques
5. Spreading of STDs (Sexually Transmitted Disease).	A. Provide medical help for detection and cure of STDs
6. Uncontrolled population growth .	A. Educate fertile couples and those in marriageable age group, about available birth control options.
7. Illegal female foeticide .	A. Ban amniocentesis (prenatal diagnostic technique to determine sex & congenital disease in the foetus - based on the chromosomal pattern in the amniotic fluid).

POPULATION EXPLOSION & BIRTH CONTROL

♦ Population growth rate is shooting out in recent years.

Reasons for population growth

- Increased health facilities and better living conditions.
- A rapid decline in death rate, **maternal mortality rate** (MMR) and **infant mortality rate** (IMR).
- Increase in number of people in reproducible age.
- Assistance to infertile couples, etc.

Consequences of over population

- Scarcity of basic requirements (e.g. food, shelter & clothing).
- Unemployment, Lack of educational facilities.
- Environmental pollution, energy crisis
- Disease due to poverty & malnutrition etc.

Population Control

- Motivate smaller families by using contraceptive methods, by giving incentives etc.
- Aware peoples about a slogan **Hum Do Hamare Do** (we two, our two).
- Encourage couples to adopt ‘**one child norm**’.
- Statutory rising of marriageable age of the female (18 years) and males (21 years).

Contraceptives:

- ☉ An ideal contraceptive should be
 - o User-friendly, easily available, cheaper, effective and reversible.
 - o No or least side-effects.
 - o It should not interfere with sexual drive, desire & sexual act.
- ♦ Various contraceptive options are available now such as **natural, barrier, IUDs, pills, injectables, implants and surgical methods**.
- a. **Natural methods** - *Avoiding chances of ovum and sperms meeting.*
 - **Periodic abstinence** (keeping away) - Avoiding coitus from day 10 to 17 of the menstrual cycle (fertile period). The idea is based on:-
 - 1) Ovulation occurs on about the 14th day (may be 13th to 16th day) of menstruation.
 - 2) Ovum survive for about 1-2 days
 - 3) Sperm remains alive for about 3 days
 - **Coitus interruptus (Withdrawal)** – The male partner withdraws penis from the vagina just before ejaculation to avoid insemination.
 - **Lactational amenorrhea (absence of menstruation)** – Preventing conception by breastfeeding the child. This is due to absence of ovulation during the period of lactation (Prolactin @high level suppresses the secretion of gonadotropins). This is effective up to 6 months following parturition.

b. **Barrier methods** - Prevent meeting of ovum and sperms with the help of barriers.

☉ **Condoms** (Eg: *Nirodh*) - Barriers made of thin rubber/ latex sheath that are used to cover the penis in the male or vagina and cervix in the female, just before coitus so that the ejaculated semen would not enter into the female reproductive tract.

→ Condoms are popular because:-

- * It protects the user from contracting STDs.
- * Disposable
- * Can be self-inserted (privacy to the user).



VS.



☉ **Diaphragms**

☉ **Cervical caps**

☉ **Vaults**

Barriers made of rubbers that are inserted into the female reproductive tract to cover the cervix during coitus.

→ They are reusable.

→ **Spermicidal creams, jellies and foams** (usually used 5-15min. before intercourse) along with barriers increase contraceptive efficiency.



c. **Intra Uterine Devices (IUDs)** - Devices making the uterus unsuitable for implantation or the cervix hostile to the sperms.

This includes-

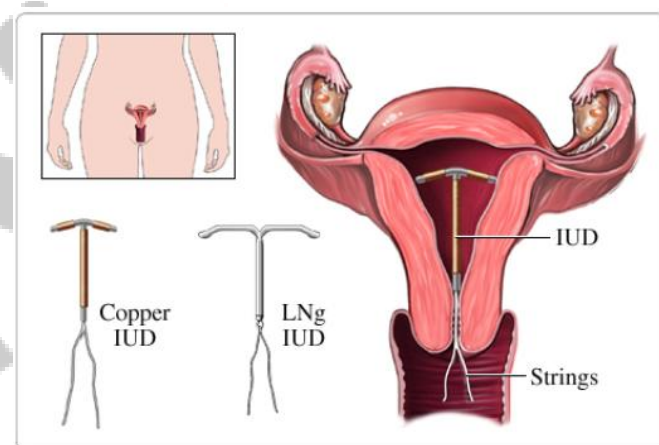
☉ **Non-medicated IUDs** (e.g. Lippes loop) - It increases phagocytosis of sperms.

☉ **Copper releasing IUDs** (e.g. CuT, Cu7, Multiload 375) - The Cu ions released suppress motility and the fertilising capacity of sperms.

☉ **Hormone releasing IUDs** (e.g. Progestasert, LNG-20) - Making the uterus unsuitable for implantation

→ Inserted by experts in the uterus through vagina.

→ IUDs are ideal contraceptives for the females who want to delay pregnancy or space children.



d. **Oral Contraceptives** - Oral administration **progestogen-estrogen** combination in the form of tablets (**pills**).

❖ Pills (eg: Mala-D) are taken daily for 21 days starting preferably within the first 5 days of menstrual cycle.

After a gap of 7 days (during which menstruation occurs) it has to be repeated in the same pattern till the female desires to prevent conception.

❖ They prevent conception by-

1. Inhibiting ovulation.
2. Making uterus unsuitable for implantation.
3. Prevent entry of sperms by altering the quality of cervical mucus.

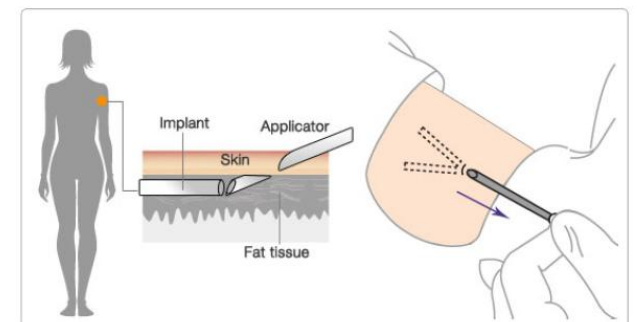


❖ **Saheli** - It is a non-steroidal 'once a week' pill for female with few side effects and high contraceptive value. It was developed at Central Drug Research Institute (CDRI) in Lucknow.

e. **Injectables & implants** - Progestogens -estrogen can be used as **injections** or **implants** (consisting 6 cylinders) under the female skin of upper arm by a simple surgery.

▪ Their mode of action is similar to that of pills and their effective periods are much longer.

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



f. **Surgical methods(sterilisation)** - Surgically blocking gamete transport and thereby prevent conception.

✓ It is very effective (failure rate 0%) but their 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.

☉ **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 contraceptives:

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

MEDICAL TERMINATION OF PREGNANCY (MTP)

▪ **MTP or induced abortion:** Intentional or voluntary termination of pregnancy before full term.

▪ MTP is legalised (in 1971) in India to avoid misuse of it.

▪ MTPs are relatively safe during the 1st trimester. (Upto 12 weeks of pregnancy). 2nd trimester abortions are very risky (because foetus become intimately associated with maternal tissue).

Importance of MTP

- To avoid unwanted pregnancy due to rapes, casual relationship, etc.
- Essential in cases where the continuous pregnancy could be harmful or even fatal to either the mother, or the foetus or both.
- MTP helps to decrease the population.

Problems related with MTPs

- Majority of the MTPs are performed illegally.
- Misuse of **amniocentesis**. If the foetus is female, it is followed by MTP.

SEXUALLY TRANSMITTED DISEASES (STDs)

- Diseases or infections transmitted through sexual intercourse is called **STD/Venereal Disease(VD)/ Reproductive Tract Infection(RTI)**
- All persons are vulnerable to STDs. These are very high among persons in the age group of 15-24 years.

STD	C.lity	Pathogen	Symptoms	Treatment
Gonorrhoea	Curable	Neisseria gonorrhoea	<ul style="list-style-type: none">• Painful urination in male• Female sterility, PID- pelvic inflammatory diseases	Antibiotics
Syphilis		Treponema pallidum	<ul style="list-style-type: none">• Initially (3-8 week): Sores on mouth and genitalia.• No symptoms for several years• Final stage: Spread of infection to heart & brain lead to paralysis and mental retardation• Miscarriage, prematurity, birth defects, still birth	Antibiotics
Chlamydiasis		Chlamydia trachomatis	<ul style="list-style-type: none">• Painful urination & intercourse, mucus discharge from penis or vagina. If remains untreated, then may transform to PID causing sterility, ectopic pregnancy	Antibiotics are effective
Genital warts		Human Papilloma Virus (HPV)	<ul style="list-style-type: none">• Warts on genital organs, fever	Chemical or surgical removal.
Trichomoniasis		Trichomonas vaginalis	<ul style="list-style-type: none">• Inflammation, itching, whitish vaginal discharge.• Males remains asymptomatic but occasionally the disease spread to the seminal vesicle and prostate gland cause swelling.	Arsenic & iodine drug
Genital herpes	Non-Curable	Herpes simplex virus	<ul style="list-style-type: none">• Genital sores (painful urination), fever, risk of cervical cancer	Oral drug
Hepatitis-B		Hepatitis-B virus	<ul style="list-style-type: none">• Fatigue, abdominal pain, arthritis, jaundice (due to liver damage).	Vaccine
AIDS		HIV virus	<ul style="list-style-type: none">• Fever, weakness, infections, cancer, dementia ultimately death	No cure

- Hepatitis-B & HIV are also transmitted-
 - * By sharing of injection needles, surgical instruments etc.
 - * By transfusion of blood.
 - * From infected mother to foetus.

Precautions to avoid STDs

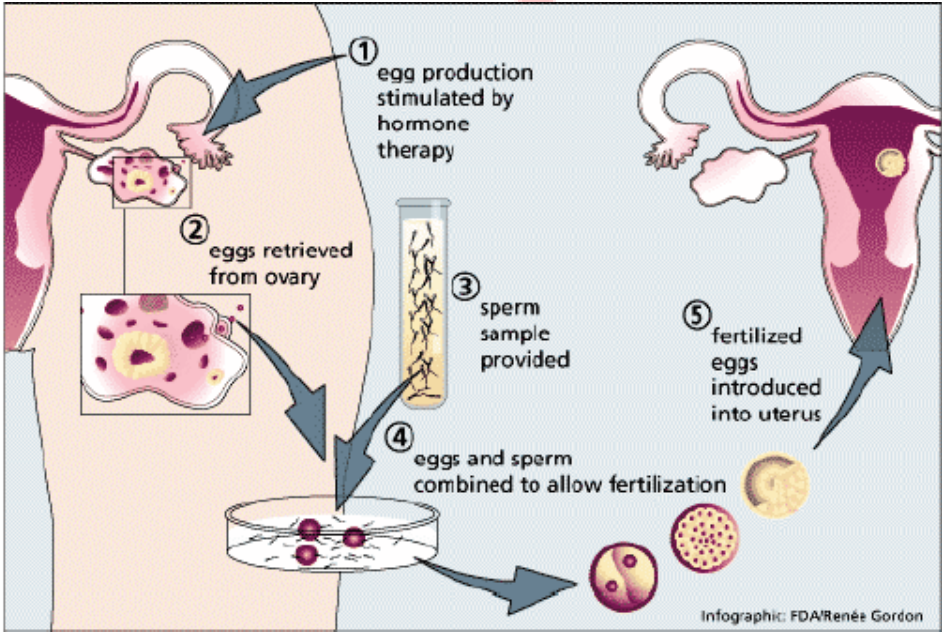
- Avoid sex with unknown/multiple partners,
- Always use of condoms during coitus
- In case of doubt, one should go to a qualified doctor for early detection and get complete treatment.

INFERTILITY

- ✦ It is the inability of male or female to produce children even after 2 years of sexual co-habitation.
- ✦ The reasons for infertility may be physical, congenital, diseases, drugs, immunological or psychological.
- ✦ Infertile couples could be assisted to have children through certain special techniques called **Assisted Reproductive Technologies (ART)**.

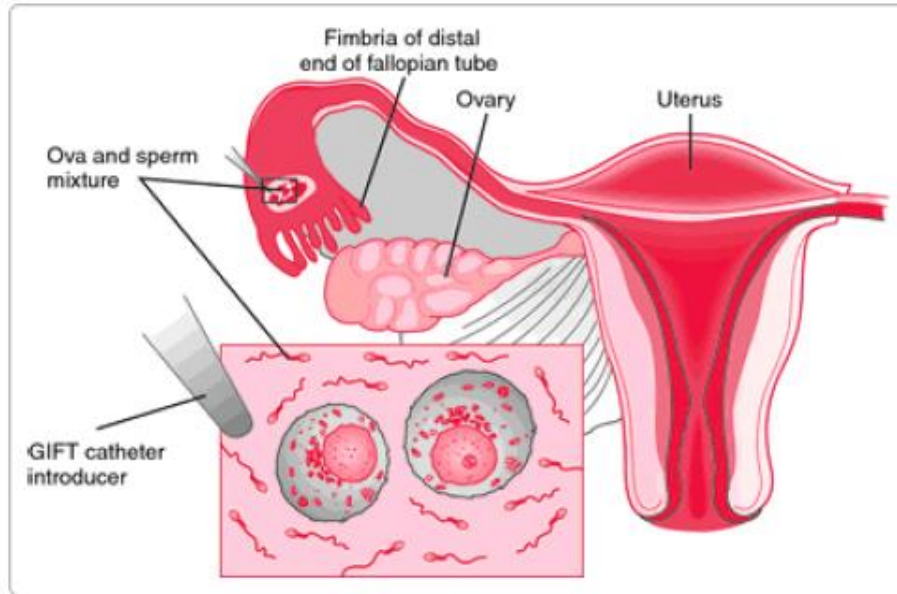
1. In Vitro fertilisation(IVF/ Test Tube Baby Programme):

- Step 1. Ova from the wife/donor and sperms from the husband/donor are collected
 - Step 2. Fusion of sperm & ovum to form zygote under simulated conditions in the laboratory.
 - Step 3. Embryo transfer (ET). It is 2 types:
 - Zygote Intra Fallopian Transfer (ZIFT): Transfer of zygote or early embryos (with up to 8 blastomeres) into fallopian tube.
 - Intra Uterine Transfer (IUT): Transfer of embryos 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 collected from a donor into the fallopian tube of another female who cannot produce one, but can provide suitable environment for fertilisation and development.



3. **Intra cytoplasmic sperm injection (ICSI):**

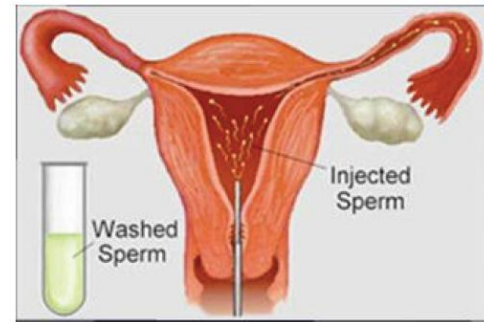
Laboratory procedure in which a single sperm (from male partner) is injected directly into an egg (from female partner). Then the fertilised egg is implanted into the woman's uterus.



4. **Artificial insemination (AI):**

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 inability to inseminate female or low sperm counts etc.



Problems of ART

- o It requires high precision handling by specialized professionals and expensive instrumentation. Therefore, these facilities are available only in very few centres.
- o Emotional, religious and social problems.

✓ **Legal adoption** is one of the best methods for couples looking for parenthood.