

Reproductive Health

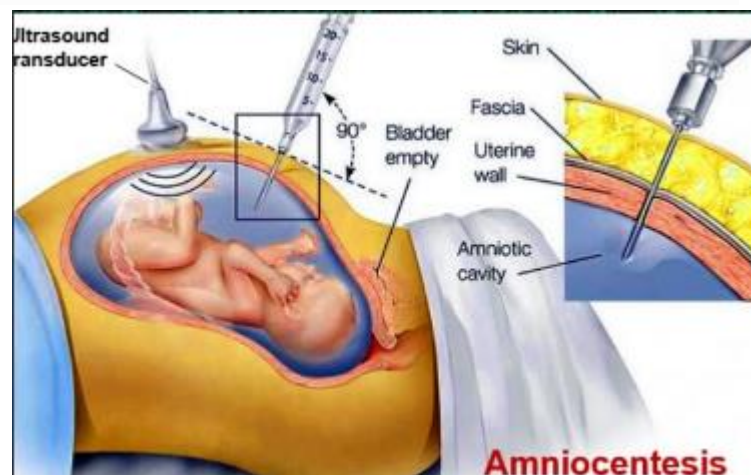
According to WHO, reproductive health means total well-being in all aspects of reproduction i.e. **physical**, **emotional**, behavioural and **social**.

Reproductive Health: Problem and Strategies

- India was amongst the first countries in the world to initiate the programme "**family planning**" in **1951** at national level.
- Improved programs covering wider reproduction-related areas are currently in operation in '**Reproductive and child health care (RCH) program**.'

Measures taken by Government Non- Government Agencies:

- Awareness through audio-visuals & print media.
- **Sex education was introduced in schools to:**
 - Discourage from believing in Myth
 - Avoid misconception about sex related aspects.
 - Provide Proper information about reproductive organs, adolescence & related changes, safe & hygienic sexual practices, STDs like AIDS etc.
- Educating Fertile couples and those in marriageable age group (to bring socially conscious healthy families of desired size) about:
 - Birth control options.
 - Care of pregnant mothers
 - Post natal care of mother and child
 - Importance of breast feeding
 - Equal opportunities for male and female child.
- Awareness of problems due to uncontrolled population and Social evils like sex-abuse & sex related crimes.
- Family members, close relatives, teachers, friends & School play major role in dissemination (passing on) of information.
- Providing medical assistance and care to reproduction-related problems, pregnancy, delivery, STDs, abortions, contraception, menstrual problems, infertility, etc., It needs strong infrastructure professional expertise and better material support.
- **Amniocentesis** (Performed b/w 14-20 weeks)– It is a prenatal diagnostic technique in which a sample of amniotic fluid is taken from the uterus of a pregnant women to detect the early development of foetus.
- It is used to find out chromosomal abnormalities in developing embryo by using amniotic fluid containing embryo cells.
- Use to test genetic disorder such as: Down Syndrome, Haemophilia, Sickle cell Anaemia etc.
- It is also misused to check foetal sex determination based on the chromosomal pattern in the amniotic fluid surrounding the developing embryo.
- Ban on sex determination keeps check on female foeticides.



Population Explosion and Birth Control

Improved quality of life of people, increased health facilities and better living condition had an explosive impact on population.

- World population- 2 billion -1900
6 billion -2000
7.2 billion -2011.
- India's Population 350 million -at time of Independence
- 1 billion by 2000 and 1.2 billion in may 2011.
- Current population: India- 1.39 billion approx. and World 7.9 billion approx..
- Rapid decline in death rate, MMR (**maternal mortality rate**) and IMR (**infant mortality rate**) along with increase in population of reproductive age is the main reason for population explosion.
- Reproductive Child health (RCH) could bring down marginal population growth rate only.
- 2011 census report- Population growth rate was 2% i.e. 20/1000 per year, a rate at which population could increase rapidly.
- Alarming growth rate could lead to an absolute scarcity of even the basic requirements, i.e., food, shelter and clothing etc.
- Steps to overcome population explosion-
 1. Using various contraceptive methods.
 2. Educating people about the demerits of large family.
 3. Increasing marriageable age-female (18 years) and male (21 years)
 4. Providing incentive to parents having 1 or 2 child.
 5. Advertisements in the media as well as posters/bills, etc., showing a happy couple with two children with a slogan Hum Do Hamare Do.
 6. Some young, urban couples have even adopted an 'one child norm'.

Contraceptive methods -Used to prevent the unwanted pregnancy.

An ideal contraceptive should be-

1. User friendly
2. Easily available
3. Effective
4. Reversible
5. No side effects
6. No way interferes with sexual desire and sexual act.

Contraceptive methods could be divided into following categories-

- a) Natural or traditional methods
- b) Barrier methods
- c) IUDs
- d) Oral contraceptive methods
- e) Injectable
- f) Implants
- g) Surgical methods.

1) **Natural or Traditional method**

- Works on the principle of avoiding fertilization.
- Side effects are almost nil.
- Chances of failure high.

a) Periodic abstinence– Couples should abstain (avoid) coitus during fertile period (10 to 17 days) of menstrual cycle.

b) Withdrawal or coitus interruptus – Male partner withdraws penis from vagina just before ejaculation to avoid insemination.

c) Lactational Amenorrhea (absence of menstruation) – after parturition and due to intense milk feeding no ovulation in this period takes place, chances of conception are almost nil. Effective only up to a maximum period of six months following parturition

2) Barrier methods

- Avoid fertilization by preventing ovum and sperms from physical meeting.
- Made of rubber or latex sheet.
- Self Used-provide privacy to the user.
- Prevent conception by blocking the entry of sperms in vagina & cervix.
- Disposable.

a) Condoms–

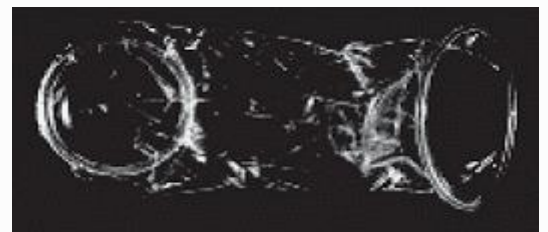
Male Condoms–

- Wear on penis.
- Prevent sperm entry into vagina.
- Use increased in recent years as it also prevents from STDs.
- **Nirodh-** popular brand.



Female Condoms–

- Inserted into vagina & prevent sperm entry into vagina & cervix.


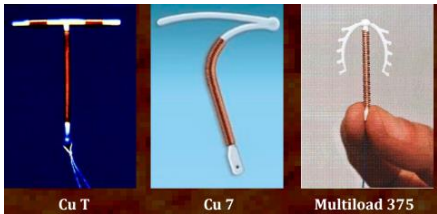



b) Diaphragms , Cervical caps , Vaults are cap like barrier that fits over the vagina/cervix and blocks sperm from entering into cervix/uterus. They are reusable.

Spermicidal (kill sperms) **creams, jellies** and **foams** are if used along with these barriers to increase their contraceptive efficiency.

3. Intra uterine Devices (IUDs) –

- Increase phagocytosis of sperm in uterus
- Reduce fertility capacity of sperms
- Inserted by doctor or trained nurse into the female uterus.
- Ideal contraceptive- for females to delay pregnancy and spacing between two children.
- Most widely accepted in India.

Non-medicated IUDs	Copper releasing IUDs	Hormone releasing IUDs
Retard Sperm mobility. Have spermicidal effect. Eg: Lippes loop	Cu ions suppress mobility & fertilising capacity of sperm. Ex: CuT, Cu7, Multiload 375	Make the uterus unsuitable for implantation and the cervix hostile to the sperms. Eg- Progestasert, LNG-20
		

4. Oral Contraceptives

Pills- Small dose of progesterone or progesterone-estrogen combination used by females in form of tablets.

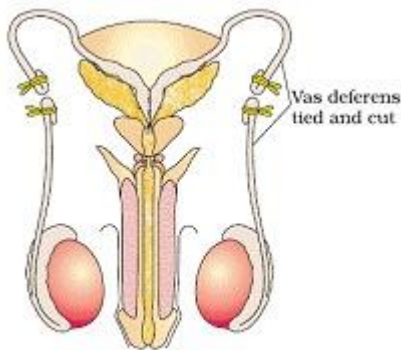
- Taken daily for a period of 21 days, after a gap of 7 days (during bleeding phase) to be repeated till the female desires to prevent conception.
- They inhibit ovulation and implantation & thicken cervical mucus to prevent sperm entry.
- **Saheli** –A non-steroidal, 'once a week' pill with very few side effects and high contraceptive value. Developed at **Central drug Research Institute (CDR) Lucknow**.

5. Injectable & Implants - Progestogens alone or in combination with estrogen can also be used by females as injections or implants under the skin.

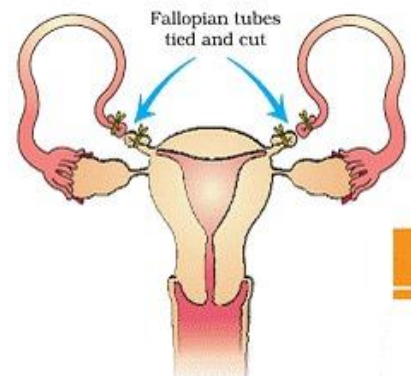
Mode of action similar to pills and effective period much longer.

6. Surgical method (sterilisation)-

- Terminal method of contraception in male and female to prevent any more pregnancy.
- Blocks gamete transport and prevent conception
- It is highly effective but irreversible method.
- Performed by qualified doctors only.



Vasectomy



Tubectomy

- **Vasectomy**- A small part of the vas deferens is removed or tied up through a small incision on the scrotum to prevent release of sperms in males.
- **Tubectomy** A small part of fallopian tube is removed or tied up using surgically in females.

Side Effects

Ill-effects like nausea, abdominal pain, breakthrough bleeding, irregular menstrual bleeding or even breast cancer.

Emergency contraceptive-

IUDs or Administration of **Pill** (progesterone or progesterone-estrogen) Ex- N-72

- Very effective but works within 72 hours only.
- Use to avoid possible pregnancy due to rape or unprotected intercourse.

Medical Termination of Pregnancy (MTP)

- Voluntary termination of pregnancy before full term or induced abortion.
- It plays important role in decreasing population.
- In World- 45 to 50 million MTPs per year (1/5th of total pregnancies)
- Debated topic in many countries due to emotional, ethical, religious and social issues.

- In India, MTP was legalized in 1971 with some restriction to prevent its misuse such as indiscriminate and illegal **Female foeticides** (Sex determination (**Amniocentesis**) is **illegal**- performed by unqualified quacks- Unsafe & fatal.
- MTP Amendment (Act) 2017- to reduce illegal abortion & consequent maternal (mother's) mortality (death) & morbidity (diseased).
- **Safe during First trimester (till 12 weeks)- require one medical practitioner opinion.**
- **Second trimester (12- 24 weeks) much riskier- require two medical practitioner opinion.**
- Performed to get rid of unwanted pregnancy due to:
 - Unprotected intercourse or failure of contraceptives
 - Rapes
 - Pregnancy involves life risk to pregnant women or physical or mental injury.
 - Harmful for foetus.
 - Child if born may suffer from physical (handicapped) or mental abnormalities.

Sexually Transmitted Disease (STDs)

Diseases or infections which are transmitted through sexual intercourse are collectively called sexually transmitted disease or **Venereal disease (VD)** or **Reproductive Tract Infection (RTI)**.

Disease	Causative agent	Symptoms	Mode of Transmission
Gonorrhoea	Bacterium Neisseria gonorrhoeae	Painful urination and Abnormal discharge from the penis or vagina. Testicular pain (men) and lower abdomen pain (women)	By having unprotected vaginal, anal or oral sex. Mother to baby (labour)
Syphilis	Bacterium Treponema pallidum	First stage- Painless sore on the genitals, rectum or mouth, vaginal discharge, rashes and small bump, After the initial sore heals, Second stage- Rashes. Then no symptoms until final stage which may occur years later. Final stage can result in damage to the brain, nerves, eyes or heart.	Spreads from person to person via skin or mucous membrane contact with these sores
Chlamydiasis	Bacteria Chlamydia	Genital Pain, Discharge from vagina or penis	Unprotected Sexual intercourse
Trichomoniasis	Protozoa- Trichomonas	Vaginal Irritation, Itching & Discharge	Unprotected Sexual intercourse
Genital Herpes (Non- curable)	Herpes Simplex II Virus	Bumps & Blisters around Genitalia, Discharge from Urethra, Painful Urination, Painful ulcer if blisters ruptures	Unprotected Sex, Skin or mucus contact.
Genital Warts (Cancerous)	Human Papilloma Virus	Warts on vagina, anus or thighs, Itching & burning sensation	Unprotected Sexual intercourse, Skin to Skin contact (Cure- Lazer Surgery)
AIDs (Acquired Immuno Deficiency syndrome) (Non- curable)	HIV (Human Immuno Deficiency Virus)	such as fever, fatigue, and swollen lymph nodes.	Unprotected Sexual intercourse, blood transfusion, sharing of injection needles, surgical instruments with infected person, from infected mother to foetus
Hepatitis B (Non- curable)	Hepatitis B virus	Yellowing of the eyes, Abdominal pain, dark urine. Some cases- no symptoms. In chronic cases, liver failure, cancer or scarring can occur.	Unprotected Sexual intercourse, blood transfusion, sharing of injection needles, surgical instruments with infected person, from infected mother to foetus,

- Timely detection and proper treatment of STDs are very important otherwise it could lead to complications later, which include **Pelvic inflammatory diseases (PID)**, abortions, **still births** (dead foetus), **ectopic pregnancies** (embryo implants outside the uterus), infertility or even cancer of the reproductive tract.

- Infections of STDs can be prevented by-

a) **Avoid sex with unknown partners/multiple partners.**

b) **Always use condoms during coitus.**

c) **Go to a qualified doctor in case of doubt for early detection and get complete treatment if diagnosed.**

Infertility

Inability (of Couple) to conceive or produce children in-spite of unprotected sexual co-habitation (even after 2 years).

Reason- may be Physical, congenital, diseases, drugs, Immunological or even Psychological.

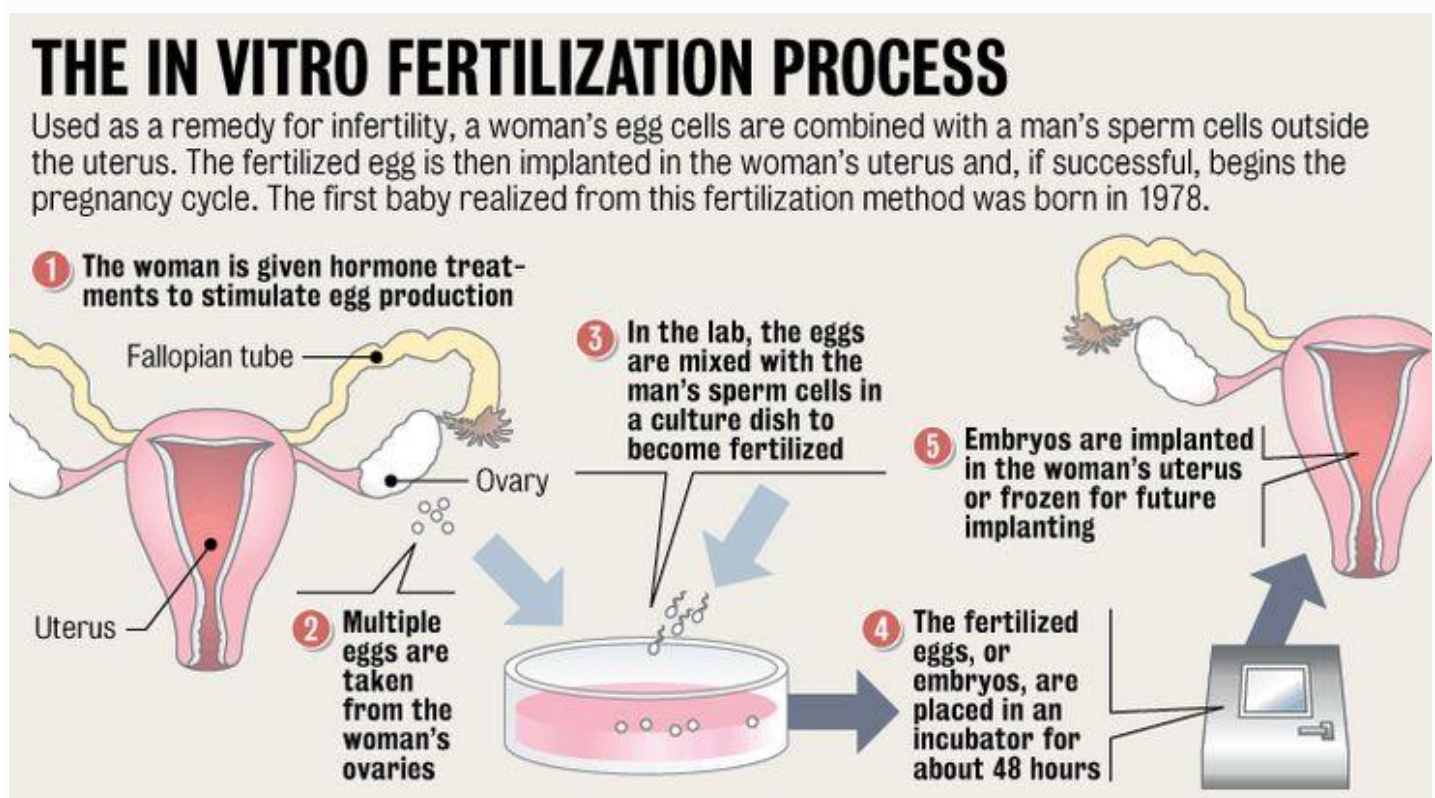
Infertility clinics-diagnosis and treatment of some of these disorders and enable these couples to have children.

Assisted reproductive technologies (ART)

(Special techniques through which Infertile couples can have children)

In vitro fertilisation (IVF) (Fertilisation outside the body followed by embryo transfer)

Test Tube Baby



- **ZIFT**—(zygote intra fallopian transfer) zygote or early embryos (upto **8 blastomeres/ Morula**) transferred to **fallopian tube**.
- **IUT** (Intra uterine transfer)- embryo (more than 8or 16 blastomere stage) transfer into the uterus.
- **Intra cytoplasmic sperm injection (ICSI)**-Sperm is directly injected into ovum in laboratory.



In vivo fertilisation (Fusion of male gamete in female body)

- **GIFT (gamete intra fallopian transfer)** –Transfer of gametes collected from a donor into fallopian tube of another female who do not produce ovum but can provide suitable environment.

Artificial insemination- Semen collected from Husband/Male donor is artificially introduced into vagina or into uterus (**IUI-Intra uterine insemination**) of female.

Done in case if male partner is unable to produce healthy (Non-motile/distorted shape) sperms /or low count.



Surrogacy

Bears child for the female who is infertile or unable to carry child in uterus.

- If case female is unable to produce ova & unable to carry child in uterus: The sperm from father are artificially inseminated.
- If case female can produce ova but unable to carry child in uterus: The ova (from genetic mother) and sperm from father are fertilized outside the body and zygote/embryo is transferred to surrogate mother through **ZIFT/IUT**.



These techniques limited to certain countries and people because:

- Require extremely high precision by specialized professional.
- Expensive instruments.
- Costly
- Emotional, religious and social factors are responsible.

Indian laws permit legal adoption (Best method for couple to experience parenthood) - many orphaned and destitute children.