

Chapter 4

Reproductive Health

Reproductive Health: Problems & Strategies

What is Reproductive Health?

Reproductive health refers to the complete physical, mental and social well-being and not simply the absence of a disease in an individual capable of reproducing.



- As per the WHO -World Health Organization, reproductive health can be defined as the total well-being and proper functioning of reproductive organs in all phases of reproduction. This includes a complete state of mental, physical, and social well-being.
- There are a number of programs that are directed for maintaining reproductive health.
- These programs include both small ads and few entertainment shows telecasted on the television for promoting safe sexual habits and

awareness about various sexually transmitted diseases (STDs). All these efforts by the government and NGOs aim at achieving a reproductively healthy society.

Objectives of Reproductive Health

Following are the major objectives of reproductive health:

- To make quality maternal and reproductive health services accessible to the people living in rural areas.
- To enhance the prevention of diseases that might affect maternal health.
- To broaden the institutional and human resource capacities of local governments, health centres, communities, and men and women involved in reproductive health.

Components of Reproductive Health

There are three essential components of sexual and reproductive health care:

1. **Family planning:** It has a significant impact on the well-being of families and especially women. With better family planning and the use of contraceptives, one can avoid unwanted pregnancies, space births and also protect themselves from STDs.
2. **Sexual health:** It refers to a respectful and positive approach towards sexual relationships. It is a very important prerequisite for good reproductive health.
3. **Maternal health:** It refers to the maintenance of a woman's health during pregnancy and after childbirth

Reproductive Health Problems

The common problems or concerns associated with reproductive health are:

- Deformities.
- Overpopulation.
- Sexually Transmitted Diseases.
- Ill health of both mother and her baby.
- Early marriages before attaining puberty.
- An increased mortality rate of both mother and Infants.

Strategies to Improve Reproductive Health

Listed below are a few strategies followed to improve reproductive health:

- The introduction of sex education is one of the steps taken by the government which aims to create awareness among adolescents about safe sexual practices.
- As adolescents become eligible to reproduce, it is essential to inform them about the consequences of unsafe sexual practices and early pregnancy. It is achieved by the implementation of the 'National Adolescent Education Program' at various schools from classes 9th to 12th.
- People in the marriageable group are educated all about infertility, birth control methods, pregnancy, post-childbirth care of the baby and mother, etc. It is also essential to provide proper medical facilities to deal with obstacles like infertility and other reproductive difficulties.
- There are a few evil practices related to reproduction that still plague our society. Female infanticide is one such example. In order to prevent this crime, a legal ban has been put on Amniocentesis Test.

Importance of Reproductive Health

- It is essential to know the importance of reproductive health as it checks the spread of many sexually transmitted diseases such as syphilis, AIDS, etc.
- The well-being of the reproductive system also ensures the production of better offspring which have better chances at surviving.
- Spreading awareness about sex education helps keep a check on the population, thereby preventing a population explosion.
- Teen pregnancies are usually unwanted and can hence be avoided, thereby keeping a check on their overall health.
- Through awareness alone, reproductive health has improved tremendously in India, in the past 50 years.
- Knowledge of the benefits of smaller families through the use of contraceptives has proven to result in the economic growth of the family.
- Various schemes and programmes are being implemented by the government to ensure and provide proper health care services with a vision of reducing the mortality rate and promoting a better standard of living in the country.

Obstacles and Approaches

The commonly related concerns of reproductive health are:

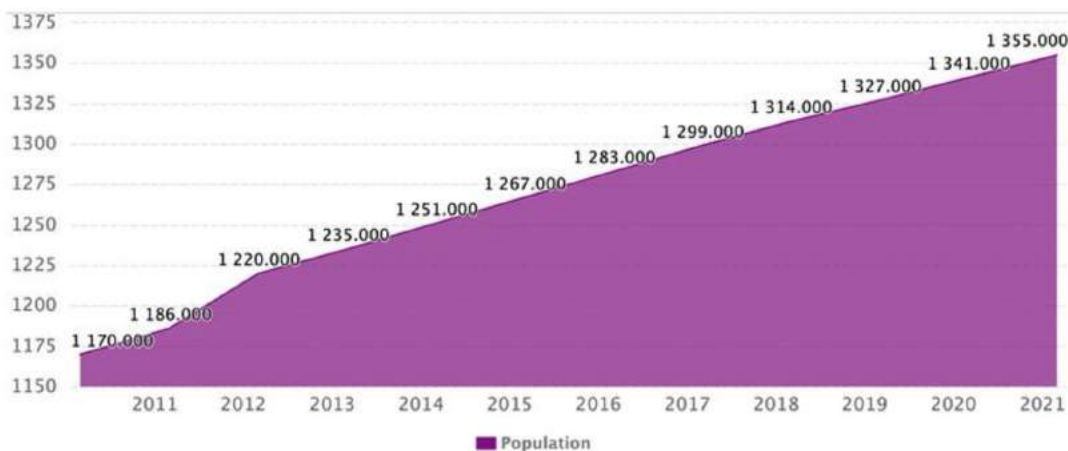
- Population explosion
- Disfigurements



- Poor health of the pregnant mother and hence the baby's ill health
- Marriage before adolescence
- Sexually transmitted diseases
- The increased death rate of pregnant mothers and the fetus

Population Explosion

- Population growth is one of the major concerns of the present world as the human population is not a static factor. Rather, it is growing at a very alarming rate.
- In spite of the increasing world population, the resources of the earth remain constant. Thus, the ability to maintain sustainable development is becoming a major challenge to mankind today.
- The tremendous increase in size and growth rate of population is called population explosion. It occurs due to increased health facilities and better living conditions.



Increase in India's Population

Reasons for population explosion:

1. Decrease in death rate.
2. Declined maternal mortality rate.
3. Decreased infant mortality rate.
4. Increase in the number of people of reproductive age.

According to the 2001 census report, the population growth rate was around 1.7%, i.e. 17/1000/year. By this rate, our population could alarmingly double in the next 33 years.

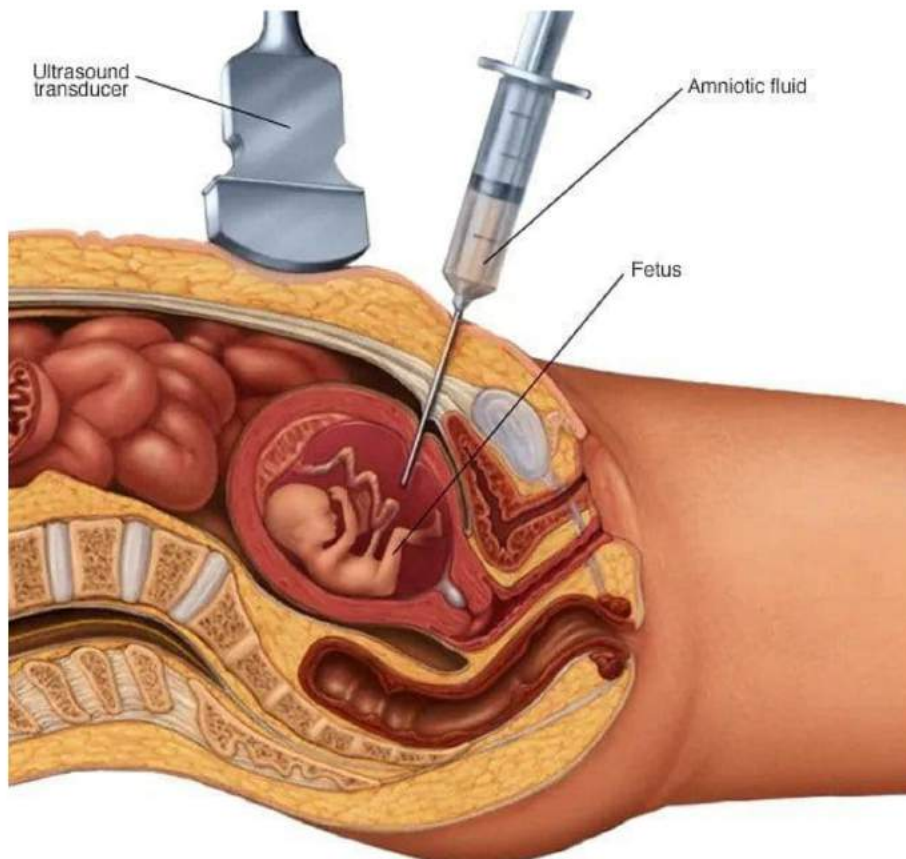


Methods to prevent population explosion:

1. Raising the marriageable age to 18 years for females and 21 years for males.
2. Couples with small families should be given some incentives.
3. Birth control is an important step to control population growth by motivating smaller families to use contraceptive methods.

What is Amniocentesis Test?

- The amniocentesis test is mainly used for the determination of the sex of unborn baby through analyzing the chromosomal content of the amniotic fluid surrounding the fetus.
- All these efforts being put forward to achieve a reproductively healthy society would be worthless if we do not cooperate.
- Thus, with the cooperation of the society, government and other NGOs, a reproductively healthy society can be achieved.



Why is Amniocentesis performed?

The amniocentesis is performed to check:

- If the karyotype (the chromosomes) of the baby is (are) normal
- If there is evidence of a neural tube defect (spina bifida or open spine)
- If there is evidence that the baby might have had an infection
- If the lungs of the baby are ready to breathe

Risks Involved In Amniocentesis

The risks involved in amniocentesis include:

- Risk of Miscarriages
- Risk of Injuries.
- Cramping
- Leaking of amniotic fluid from the puncture site or vagina
- Preterm labour
- Risk of Injuries
- Injuries to the baby by the needle are exceedingly rare now since the procedure is done under ultrasound guidance.

Ban on Amniocentesis

Amniocentesis had been banned in India in 1994, under the Preconception and Prenatal Diagnostic Techniques Act. This was because amniocentesis could reveal the sex of the foetus. Since a girl child is not accepted in many parts of the country, the female foetus is aborted in most of the cases. To stop this, amniocentesis was banned in India.

Birth Control, Contraception & Medical Termination of Pregnancy

What is Birth Control?

Birth control is the use of certain devices, drugs or surgical procedures in both males and females, to prevent conception.

- Birth control includes a variety of devices and procedures by which conception can be prevented.
- These methods can be implemented both in men and women.
- Out of the several methods, only a few are reliable.



- The effectiveness depends on how carefully the method is used.

What is Contraception?

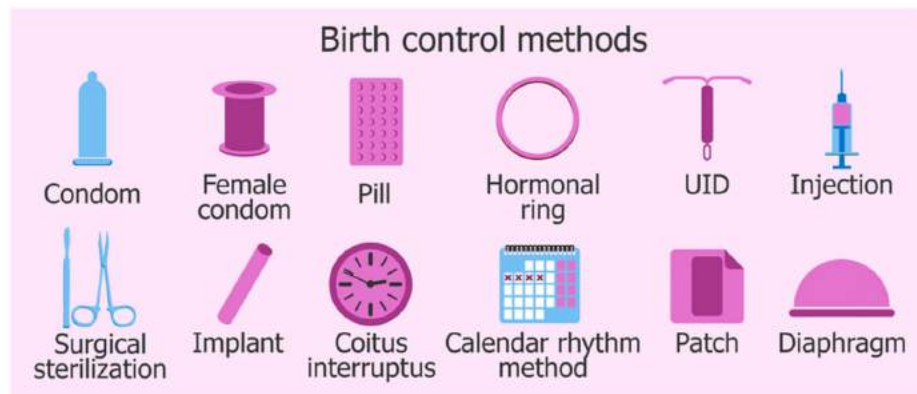
Contraception is an artificial method or other techniques, mainly used to prevent pregnancy as a consequence of sexual intercourse. When a sperm reaches the ova in women, she may become pregnant.

Contraception is a method that prevents this phenomenon by:

- Stopping egg production.
- Keeping the egg distinct from the sperm.
- By stopping the fertilized egg from attaching to the lining of the womb.

Types of Contraception

They are ideal if they are user-friendly, easily available, effective, reversible with no side effects, and non-interfering with the sexual drive, desire, and sexual act. There are several methods of birth control.



These are categorized mainly as follow:

1. Natural Method

The natural method of birth control involves avoiding chances of sperm and ovum meet.

It can be achieved by:

- Periodic abstinence** in which couples avoid coitus from day 10-17 (Fertile period) of the menstrual cycle. In this period, ovulation is expected to

occur and chances of fertilization are very high. Also called the rhythm method or natural family planning.

- **Coitus interrupts** also called the 'rejected sexual intercourse' or 'pull-out method or withdrawal. In this method, the penis is withdrawn, from the vagina just before ejaculation.
- **Lactational amenorrhea** refers to the absence of menstruation during the period of lactation following parturition. Because ovulation does not occur in this period, the chances of conception are none. This method is reliable for a maximum period of six months after delivery.

2. Barrier Method

These are based on the prevention of ovum and sperm from physically meeting with the help of barriers. Barriers may be chemical or mechanical.

- **Mechanical methods**

(a) **Condoms** are mechanical barriers made of thin rubber or latex sheath to cover the penis in males or vagina and cervix in females which prevent the meeting of sperm and ova. Condoms also provide protection against sexually transmitted diseases. They are disposable and can be self inserted and thereby gives privacy to the user.

(b) **Diaphragms, cervical caps, and vaults** are also mechanical barriers, made of rubber that are inserted into the female reproductive tract to cover the cervix during coitus. They are reusable.

- **Chemical methods**

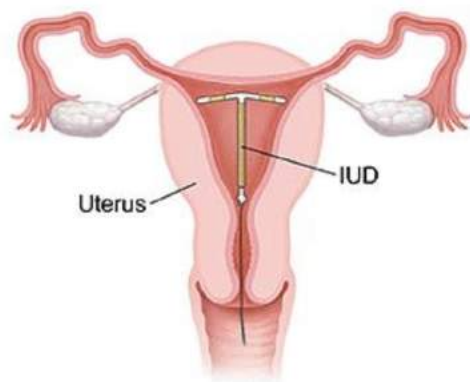
Spermicidal creams, jellies, and foams are chemical barriers, usually used along with these barriers to increase their contraceptive efficiency.

3. Intra-Uterine Devices (IUDs)

Intra-Uterine Devices (IUDs) are the devices introduced in the uterus through the vagina by doctors or expert nurses.

These are of the following types:

- Non-medicated IUDs, e.g. lippes loop.
- Copper-releasing IUDs, e.g. Cu-T, Cu-7, multiload 375.
- Hormone-releasing IUDs, e.g. progestasert, LNG 20.



Placement of IUD in the Uterus

IUDs prevent contraception in the following ways:

- Increase phagocytosis of sperms within the uterus.
- Some IUDs suppress sperm motility and fertilizing ability of sperm by releasing copper ions.
- The hormone-releasing IUDs make the uterus unsuitable for implantation and make the cervix hostile to sperms.

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

4. Oral Contraceptives

Oral contraceptives are hormonal preparations in the form of pills.

- Pills are small doses of either progestogens or progesterone-estrogen combinations.
- Oral pills alter/inhibit ovulation and implantation and also modify the quality of cervical mucus to prevent/retard entry of sperms.
- Oral pills have to be taken daily for a period of 21 days starting within the first five days of the menstrual cycle.
- Saheli an example of an oral contraceptive developed by scientists at Central Drug Research Institute (CDRI) Lucknow, contains a non-steroid called centchroman. It is a once-a-week pill, with very few side effects.

5. Replants or Injections

Replants or injections are effective for a longer period, although their mode of action is similar to oral contraceptives. Progesterone alone or in



combination with estrogen is used by females as injections or implants under the skin.

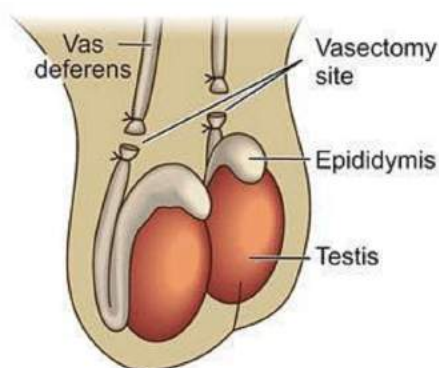
6. Emergency Contraceptives

Emergency contraceptives included administration of progesterone or progestogen-estrogen combinations or IUDs within 72 hours of coitus. It has been found to be very effective to avoid possible pregnancy due to rape or casual unprotected intercourse. Both of these techniques are highly effective but poorly reversible.

7. Sterilisation or Surgical Methods

Sterilisation or surgical methods are used by male/female partners as a terminal method to prevent any more pregnancies. These methods block the transport of gametes and prevent contraception.

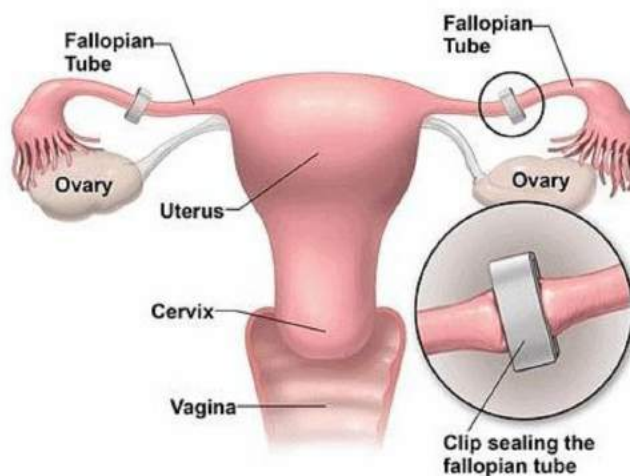
- **Vasectomy** is applied in the case of males. In this method, a small portion of vas deferens is removed or tied up through an incision on the scrotum.



Vasectomy in males

Tubectomy is applied in females, where a small part of the Fallopian tubes is removed or tied up through a small incision in the abdomen or through the vagina.





Tubectomy in Females

Medical Termination of Pregnancy

Medical Termination of Pregnancy (MTP) or induced abortion is the intentional or voluntary termination of pregnancy before full term.

- The Government of India had legalized MTP in 1971 with some strict conditions to avoid its misuse. These are important to check indiscriminate and illegal female foeticides which are reported to be high in India.
- MTPs are done in certain cases where pregnancy can be harmful and even fatal either to the mother or the foetus or both, or due to failure of contraceptive used during coitus or rapes.
- MTPs are considered relatively safe during the first trimester (upto 12 weeks) of pregnancy.
- During second trimester, MTPs are unsafe and could be fatal too.
- About 45-50 million MTPs are carried out in a year all over the world. It has a significant role in decreasing population though it is not meant for that purpose.

Family Planning

What is Family Planning?





The family planning programs were initiated in India in 1951 and were periodically assessed over the past decades. The programmes were improved and covered reproduction-related areas under the popular name **Reproductive and Child Healthcare (RCH) programmes**. It was launched in 1997.

This approach is devised for the wellness of women and her family, globally. Various contraceptive methods help in dealing with unwanted pregnancies. Few other schemes under family planning are – awareness and the protection against sexually transmitted diseases such as HIV/AIDS.

Family planning refers to practices that help individuals to attain certain objectives:

- To avoid unwanted Births
- To Bring about wanted birth
- To regulate the interval between pregnancies
- To determine the number of children in the family India is the first country in the world to launch a family planning programme in 1952. In 1977 it changed into a family welfare programme "To improve the quality of life of people."

Small family norm

1970 slogan was – "Do ya Teen Bas"

1980 slogan was – "Sons or Daughter - Two will do" "Second after 3 years"

Major Tasks of RCH Program

- **Creating awareness** among the people about reproduction related aspects.
- Providing facilities and support for building up a reproductively healthy society. Governmental and non-governmental agencies have taken various important steps to create awareness among people about reproduction-related aspects.
- In schools, **introducing sex education** is a good step to provide the right information for adolescents to discourage them from believing in myths and misconceptions about sex-related issues. Adolescents should be



informed about reproductive organs, adolescence and related changes, safe and hygienic sexual practices, Sexually Transmitted Diseases (STDs), AIDS, etc.

- Married couples or those in the marriageable age group should be educated about available birth control options, care of pregnant mothers, postnatal care of the mother and child, the importance of breastfeeding, equal opportunities for the male and the female child, etc. This will lead to the formation of socially conscious healthy families of the desired size.
- Successful implementation of action plans like **providing medical assistance and care to reproduction-related problems**, pregnancy, delivery, STDs, abortions, contraception, menstrual problems, infertility, etc., needs strong support and infrastructural facilities.
- **Statutory Ban on amniocentesis:** It is a prenatal diagnostic technique in which a sample of amniotic fluid is taken from the uterus of a pregnant woman to detect the early development of the foetus. The benefits of amniocentesis are the diagnosis of chromosomal abnormalities and developmental disorders of the foetus. However, it is being misused for the sex-determination of a foetus that leads to female foeticides. Therefore, the statutory ban on amniocentesis for sex determination keeps checking on female foeticides.

Contraceptive Method



Methods which prevent unwanted birth or pregnancies are called contraceptive methods. (two types)

- Temporary method or spacing method



- Permanent or Terminal method

Five Types of Temporary or Spacing Methods

Chemical Method

In this method, chemicals are used which are **spermicidal agent** or surface-active agents which attach themselves to spermatozoa and **inhibit O₂ uptake** and kill sperm.

Example: Vaginal Foam/tablets = 'Today'

Cream or Jelly = "Nim - 76", (DIPAS)

(Defence Institute of Pure Applied Science manufactured it)

These medicines are composed of chemicals like **ZnSO₄**, **KMnO₄**, **Boric acid**, **Lactic acid**, **Citric acid**. These chemicals completely destroy sperm so they are called **spermicides**.

Mechanical or Barrier Method

Ovum and sperms are prevented from physically meeting with the help of barriers.

For Males: Condom - Made up of latex. They also act as a barrier between sperm and egg hence fertilization is absent. Protection from contracting STDs and AIDS.

Share

1st Indian condoms mfd. by **Hindustan latex Ltd.**

Rakshak

For Female - Intra Uterine Devices (I.U.D.): These devices are inserted by doctors or expert nurses in the uterus through vagina.

I.U.C.D. – Intra Uterine Contraceptive Devices:

1st IUCD was used by **Graffenberg**. It was **Ag** made I.U.C.D. when it was put into the uterus, till it was there, the female wasn't pregnant.

Now **Cu** made IUCD are used.

IUDs are available as

- Non-medicated IUDs (e.g. Lippes loop)
- Copper releasing IUDs (CuT, Cu7, Multiload 375)
- Hormone releasing IUDs (Progestasert, LNG-20)

Mechanism:

IUDs increase phagocytosis of sperms within the uterus and the Cu ions released suppress sperm motility and the fertilising capacity of sperms. The hormone-releasing IUDs in addition, make the uterus unsuitable for implantation and the cervix hostile to the sperms. IUDs are ideal contraceptives for females who want to



delay pregnancy and/or space children. It is one of the most widely accepted methods of contraception in India.

Hormonal Method

This is the most effective method (almost 100% effective)

Most widely used contraceptive method. In this method, oral pills and injections are used.

Female Oral Pills

- **Mala-N, Mala-D** – Daily oral pills
- **Saheli** – Weekly oral pills. Non-steroidal pill. (Mfd. by Hindustan Latex Ltd.)
- **Quinestrol** – Monthly The daily oral pills are started from 5th day of Menstruation cycle for 1 to 21 days Hormonal pills are given and Iron or Fe pills are given in last 7 days for recovery of blood loss in menstruation flow.

In the composition of an oral pill

- **Norethisterone acetate** (Synthetic progesterone)
- **Ethynyl estradiol** (Synthetic Estrogen)

Mechanism: The action of oral pill is to **prevent the Ovulation** from ovary this is achieved by **blocking the pituitary secretion of gonadotropin (FSH and LH)** that is necessary for ovulation. Progesterone only preparations render the **cervical mucosa thick and scanty** this inhibit sperm penetration. So fertilization is absent.

Male Pill

Gossypol – Made from cotton seeds. This pill **prevents spermatogenesis**. Now it has been banned because it causes permanent **azospermia** (preventing spermatogenesis) **Progesterone hormone can be used in male oral pills.** In July 2000 china made progesterone pills for males (first time in the world).

Injection

– **DMPA** – (depot – medroxyprogesterone acetate) (Depot = slow release) Subcutaneous injection/ Norplant.

In these injections, a high level of progesterone Hormone is present which Inhibit the secretion of gonadotropins so ovulation is absent.

Natural method

- **Rhythm or Periodic abstinence method** – 1st 7 days after Menstruation Cycle (M.C.) and 7 days before M.C. is called **safe period** because in these 14 days ovum is absent in fallopian tubes. Hence fertilization usually does not occur.
- **B.B.T. (Basal Body Temp.)** – At the time of ovulation BBT \uparrow by $1/2^{\circ}\text{C}$ due to \uparrow in BMR
- **Withdrawal or Coitus interruptus** – During sexual intercourse, if male withdraws his penis from the vagina just before ejaculation.
- **Lactational amenorrhea** – High concentration of prolactin may lead to inhibition of menstrual cycle in lactating mothers.

M.T.P. (Medical Termination of Pregnancy)

Now it has been banned by M.T.P. act 1971 But in few cases M.T.P. is permissible. It is relatively safe during the 1st trimester and more risk in 2nd trimester **Condition of MTP.**

- **Medical** – When pregnancy might endanger to mother's life.
- **Eugenic** – When a child is born with a serious illness.
- **Humanitarian** – Where pregnancy is the result of rape.
- **Socioeconomic** – If the mother is having more than 2 to 3 children.
- **Failure of contraceptive devices.**

Permanent or Terminal Method

It is a surgical method/Sterilisation – Block gamete transport thereby prevent conception.

Female sterilisation – 85% Male sterilisation – 10 to 15%

For Male: Vasectomy To cut off vas deferens. So ejaculation of sperm does not occur.

For Females: Tubectomy – To cut off fallopian tubes.

Tubal ligation – To ligate fallopian tubes.

Sexually Transmitted Diseases (STDs) & Infertility

Reproductive health has been defined by the World Health Organisation (WHO) as the total well-being in all aspects of reproduction i.e., physical, emotional, behavioural and social. In our country, we have a number of programs aimed at the maintenance of reproductive health. These efforts include creating awareness about the various sexually transmitted diseases (STDs), their causes, mode of



transmission and prevention from such diseases. Here we will discuss some common STDs and how to prevent them.



Sexually Transmitted Diseases

Sexually Transmitted Diseases

Venereal diseases which are commonly known as sexually transmitted diseases (STDs) are infectious diseases transmitted through sexual contact. It is also referred by the name reproductive tract infections (RTI). AIDS, Gonorrhea, syphilis, genital herpes and warts, chlamydiosis and hepatitis-B are few commonly known STDs. Bacteria, viruses, and parasites of different strain have contributed their shares. The majority of these diseases develop without showing any symptoms which increase the risk factors, especially in women. Risk factors include infertility, pelvic inflammatory disease (PID), abortions, ectopic pregnancies, and in worse conditions, it may even lead to cancer of the reproductive tract. Unusual discharges from genitals, genital ulcers, tumours, itching, etc. are few signs and symptoms of STDs.

Sexually transmitted diseases are the name given collectively to the diseases which spread sexually. However, every STD is not sexually transmitted; they can spread through non-sexual contact also. Non-contact modes include transfusion of contaminated blood and tissue, breastfeeding, sharing of syringes, etc. STDs like AIDS can be passed from the mother to her child during birth, or after birth through breastfeeding. Hence, proper diagnosis and treatment are necessary before its blowout. Medical field researchers have a solution for every STD, while hepatitis-B, genital herpes, and HIV infections stand out of the list. These diseases still baffle them.

Strategies for Prevention

Despite advanced technologies, STDs are still a major threat to the nation. We come across a number of advertisements on the television about various programs promoting safe sexual habits, and awareness about various sexually transmitted diseases (STDs). All these efforts by the government and non-governmental organizations aimed at achieving a reproductively healthy society.

General awareness about STDs is necessary to control further waves. The introduction of sex education is one of the steps taken by the government which aims at creating awareness among adolescents about safe sexual practices. Apart from the awareness and education part, it is also essential to provide proper medical facilities to deal with problems related to STDs.

So let's conclude that 'Prevention is better than cure':

- Avoid unprotected sex
- Avoid sexual contacts with multiple partners
- Consult a qualified doctor for diagnosis and treatment.

Common Sexually Transmitted Diseases

The most common sexually transmitted diseases are Gonorrhea & Syphilis.

Gonorrhea

Gonorrhea is an infection transmitted sexually which can affect both men and women. It is a serious disease and can cause extreme health problems if left untreated. It is more common in women than in men. An estimated 78 to 88 million cases of Gonorrhea are reported every year. Along with chlamydia, syphilis, and trichomoniasis, it is one of the most common sexually transmitted infections (STI) in the world.

Gonorrhea is caused by a bacteria which is called *Neisseria Gonorrhoeae*. The bacteria germinates very rapidly in the mucous membrane of the body and is present in the semen and vaginal fluids of an infected person. It is highly contagious and spreads through the act of sexual contact- vaginal, anal or oral. Women are more likely to contract the disease by having intercourse with an infected male than the other way around.

Gonorrhea Symptoms:

The symptoms are very subtle and often unnoticeable for months after contracting the disease. That is why it is extremely important to be aware of even the small signs that can possibly be of the disease. It affects men and women differently.

Gonorrhea Symptoms in Men:



Men who have contracted the disease may notice the following symptoms:

- Burning sensation while urinating
- Abnormal discharge of liquids from the opening of the penis, usually green, yellow or white in color.
- Pain in the lower pelvic area and occasionally, in the testes

Gonorrhea Symptoms in Women:

Gonorrhea in women can produce the following symptoms:

- Abnormal vaginal discharge. It can be green or yellow, thin or watery.
- Burning sensation while urinating.
- Pain in the lower abdomen.
- Blood discharge between periods.
- Swelling in the outer vaginal region.
- Swelling and pain in the throat, in case of oral Gonorrhea.

Gonorrhea Treatment:

It can be completely cured if it is diagnosed in the early stages. Delay may cause some serious complications. The treatment of the disease is generally done with antibiotics. Multiple doses of Gonorrhea treatment antibiotics are generally prescribed to the patient. It is important to finish the full course of the disease may not be cured.

Like all diseases, prevention is better than cure is applicable to this disease too. Using proper protection while having intercourse significantly reduces the chances of contracting the disease. It is also recommended not to indulge in intercourse with people who have already contracted it or has recently been cured.

Syphilis

Syphilis is a sexually transmitted infection (STI) caused by the *Treponema pallidum* bacterium. These pathogens usually enter the body through the tissues that line the rectum, vagina or nose. If not treated quickly, it could get worse over time and causes other medical issues. There are four stages in syphilis Primary, Secondary, Latent and Tertiary.

Stages of Syphilis



1. Primary Syphilis:

One of the first signs occur about three to four weeks after infection, it begins as painless open sores called "Chancre" it is often found in the mouth, anus or the genitals. Normally caused by direct contact with an infected person (Sexual activity)

2. Secondary Syphilis:

At this stage, sore throat, skin rashes start appearing and the rashes are normally found on the palms or soles or any part of the body. Symptoms include headaches, swollen lymph glands, fatigue, fever, hair loss, aching joints.

4. Latent Syphilis:

After the rashes disappear there will be a period where there are no symptoms this is called "hidden stage". Even if the symptoms go away, the syphilis infection is still present and start damaging the inner organs. This stage may last up to 5-20 years.

5. Tertiary Syphilis:

Tertiary syphilis could occur years after you are initially infected as this could be life-threatening and could cause serious health problems like Blindness, deafness, mental illness, memory loss, destruction of soft tissue, heart diseases, etc.

Causes of Syphilis:

Syphilis could be caused by

- Having HIV
- Having unsafe sex or unprotected sex (Not using condoms)
- Having sex with partners who have many sex partners.
- Having a sex partner who is infected by the syphilis bacteria.

Symptoms of Syphilis:

Signs and symptoms vary from men to women. The general symptoms of this bacterial infectious disease include:

- Fever
- Pain during sex.
- Lower abdominal pain.



- Rashes over the trunk, hands or feet.
- Painful or burning urination.
- Discharge from the penis.
- Unusual vaginal bleeding.
- Sores or bumps on the genitals or in the oral or rectal area.

Diagnosis of Syphilis:

Syphilis can be diagnosed by certain laboratory tests. These tests include an examination of a body fluid sample :

- Blood tests: Blood samples can confirm the diagnosis or the presence of HIV or the stages of syphilis.
- Urine samples. Some sexually transmitted diseases can be confirmed with a urine sample.
- Genital sores: Testing fluid and samples from the sores may be done to diagnose the types of sexually transmitted infections.

Treatment of Syphilis:

Syphilis is generally easier to treat. Treatment usually consists of Antibiotics or Antiviral drugs. Primary and secondary syphilis could be easily treated with a penicillin injection. Penicillin is one of the widely used antibiotics and is very effective in treating syphilis.

Solutions for Infertility

About 12-15 % of couples of reproductive age are disturbed by infertility. What is the actual reason behind infertility? What are the different infertility treatments? We will discuss IVF, GIFT, and ZIFT in this section.

When a man or woman is incapable to contribute fully to pregnancy even after insecure coitus, it is referred to as infertility. Reason for infertility may be known or unknown. Mostly ovulation variation in women is the main reason for infertility. In males, insufficient sperm production or genetic defects etc, are the reasons for infertility.

Infertility can be solved with the help of processes like in vitro fertilization (IVF), zygote intra-fallopian transfer (ZIFT), and gamete intrafallopian transfer (GIFT) etc. Assisted reproductive technology (ART) is a collection of medical manipulation methods to circumvent infertility. The methods include gamete intrafallopian transfer (GIFT), in vitro fertilization (IVF), zygote intra-fallopian transfer (ZIFT), embryo transfer (ET), etc. These all methods aim to increase pregnancy probability



to its full term. Cost of treatment and time consumption is counted as two disadvantages of ART.

In-Vitro Fertilization (IVF)

In vitro fertilization is the most commonly used assisted reproductive technologies (ART). In vitro fertilization, as its name-fertilization is done by fusing ova from female donor and sperm from the male donor outside the body under strict laboratory conditions. This results in a zygote or famously known as a test-tube baby. After the embryo culturing, an embryo is transferred to the uterus of the mother. This method is commonly performed in case of women with damaged or clogged Fallopian tubes.

Zygote intrafallopian transfer (ZIFT)

Zygote intra-fallopian transfer (ZIFT), also known as Tubal Embryo Transfer is analogous to IVF. ZIFT is an ART procedure where fertilization happens in a laboratory. The thus formed zygote is then conveyed to the Fallopian tube of the mother using laparoscopy. ZIFT proceeds as follow: egg retrieval from ovaries, fertilization, carrying the zygote into the uterine tubes for implantation and further development. ZIFT is not for women with abnormal uterine tubes.

Gamete Intra-Fallopian Transfer (GIFT)

Unlike IVF and ZIFT, GIFT is an in-vivo fertilization procedure where the gametes – sperm and ova are conveyed directly into the fallopian tube. In GIFT, fertilization and zygote formation is more natural as it takes place within the female body. However, this technique is carried out only if there is enough sperm count and minimum one fallopian tube is functional. GIFT is an alternative for IVF. Achievements, accessibility, and easiness of assisted reproductive technologies (ART) have elevated the scope and expectations of infertile couples irrespective of the cause of infertility.

