

POPULATION EXPLOSION AND BIRTH CONTROL

- Improved healthcare and living conditions caused a huge increase in the world's population.
- The global population, around 2 billion in 1900, shot up to about 6 billion by 2000.
- India's population, approximately 350 million at independence, neared a billion by 2000, surpassing it in May 2000.
- This means one in every six people in the world is Indian.
- Factors like a significant drop in death rate, maternal mortality rate (MMR), infant mortality rate (IMR), and more people in the reproductive age contribute to this rise.
- While our Reproductive and Child Health (RCH) programs helped slow population growth, it was only a small change.
- As per the 2001 census, the population growth rate was still around 1.7 percent, meaning our population could double in 33 years at this rate.

To motivate smaller families -

- By employing different ways to prevent pregnancy.
- Advertisements like "Hum Do Hamare Do."
- Some couples have chosen to follow a 'one child norm.'
- The legal age for marriage for females raised to 18 and for males to 21.
- Ways to prevent pregnancy.

An ideal contraceptive -

- Should be easy to use and widely accessible.
- Should be efficient, reversible, and with little to no side effects.
- Should not affect the user's sexual drive, desire, or the sexual act in any way.

Methods Of Contraception

An ideal contraceptive should be easy for people to use, readily accessible, effective, and reversible, with little to no side effects. It should also not interfere with the user's sexual drive, desire, or the sexual act. Currently, there are various contraceptive methods available, broadly grouped into categories like Natural/Traditional, Barrier, IUDs, Oral contraceptives, Injectables, Implants, and Surgical methods.

(1) Natural methods

- Some methods work by preventing the meeting of eggs and sperm. Periodic abstinence is when couples avoid sex from day 10 to 17 of the menstrual cycle when ovulation is likely. This period is called the fertile period, and by avoiding sex during this time, they can prevent conception.
- Withdrawal or coitus interruptus is another method where the male partner pulls out before ejaculation to avoid insemination.
- The lactational amenorrhea method relies on the idea that ovulation doesn't happen during intense breastfeeding after childbirth. As long as the mother fully breastfeeds the child, the chances of conception are almost zero. However, this method is effective for a maximum of six months after childbirth. Since no medicines or devices are involved, side effects are minimal, but the chance of failure is higher.

(2) Barrier methods

Barriers are used to stop eggs and sperm from physically meeting. These methods are accessible for both males and females

Condoms

Condoms are thin rubber or latex sheaths that are used to cover the penis in males or the vagina and cervix in females just before sexual activity. This prevents semen from entering the female reproductive tract.

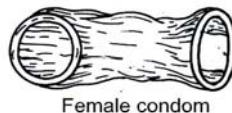
"Nirodh" is a well-known brand of condoms designed for males, manufactured by Hindustan Latex Ltd.

- Condom use has gone up recently because it also helps protect users from getting STDs and AIDS.



Condom for male

- Both male and female condoms are disposable, can be put in by the user themselves, giving them privacy.



Female condom

- Diaphragms, cervical caps, and vaults are also rubber barriers that are placed inside the female reproductive tract to cover the cervix during sexual activity.



Diapharm

Cervical
cap

Vault
cap

- They stop pregnancy by blocking sperms from entering through the cervix.
- You can use them again.

Note:

Sperm-killing creams, jellies, and foams are often used with these barriers to make them more effective in preventing pregnancy. They contain nanoxynol.



Spermicide Cream

3. Intra uterine devices (IUDS)

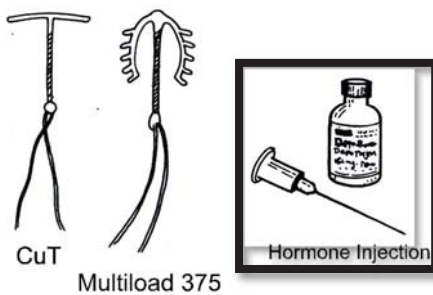
Doctors or skilled nurses insert these devices into the uterus through the vagina. These devices, known as Intra Uterine Devices (IUDs), come in two types:

a. Non-medicated IUDs like Lippes loop and Paragard.

Interestingly, the presence of an inactive foreign object in the uterus somehow stops pregnancy. White blood cells gather in the uterine fluid in response to this foreign object. They likely destroy sperms, preventing fertilization, and also make the endometrium unsuitable for implantation.

b. The hormone releasing IUDs (Progestasert, LNG-20).

- IUDs boost the ability of the uterus to engulf and eliminate sperms.
- Copper ions released by IUDs slow down sperm movement and reduce their ability to fertilize eggs.
- Hormone-releasing IUDs also make the uterus unsuitable for implantation and create a hostile environment for sperms at the cervix.
- IUDs are great contraceptives for women who want to delay pregnancy or space out their children.
- It's one of the most widely used contraception methods in India.



- 4. Oral contraceptives**, a method used by females, involve taking small doses of either progestogens or progestogen-estrogen combinations, commonly known as pills.
- The pills are taken daily for 21 days, starting preferably within the first five days of the menstrual cycle. After a 7-day gap (during menstruation), the cycle is repeated until the female wants to prevent conception.
 - They work by stopping ovulation and implantation and changing cervical mucus to prevent or slow down sperm entry. Pills are highly effective with minimal side effects and are widely accepted by females.
 - Saheli, a new oral contraceptive for females, contains a non-steroidal preparation called centchroman. It prevents implantation without affecting ovulation, working through anti-estrogenic activity. It is a 'once a week' pill with few side effects and high contraceptive value.
 - Mala-D and Mala-N are daily oral contraceptives. Progestogen-only pills (POP), often referred to as "minipill" or "micropill," contain only progesterone, given in a small dose throughout the cycle. Commonly used progestogens include Levonorgestrel.



Oral Contraceptive Pills

- These pills inhibit ovulation, prevent implantation, and alter cervical mucus quality to prevent or slow sperm entry. They are highly effective with minimal side effects, well-accepted by females.
 - Oral pills usually contain a combination of progestogen and estrogen. These hormones provide negative feedback to the pituitary, blocking FSH and LH release, preventing ovum development, and primarily stopping ovulation.
5. **Injections or implants**, which can be used by females, involve using progestogens alone or combined with estrogen.
- Norplant is an implant with six capsules placed under the skin, releasing hormones slowly to block ovulation. It remains effective for 5 years.
 - DMPA (Depot Medroxy Progesterone Acetate) is a contraceptive injection that works for 3 months.

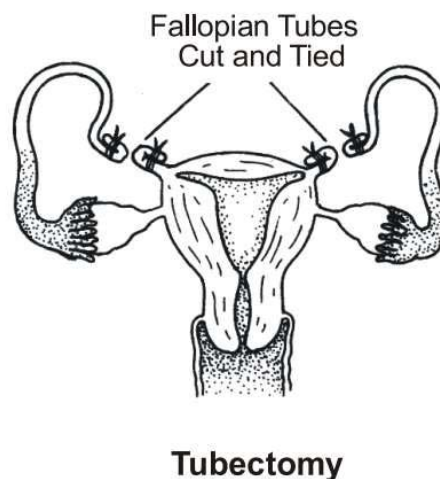
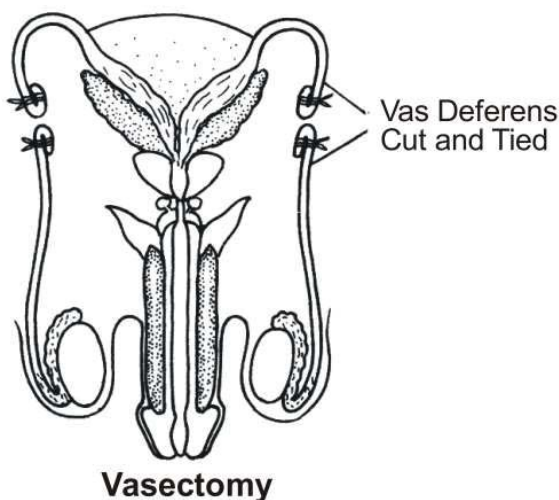


Implants

Their action is similar to that of pills, but they remain effective for much longer periods.

Note: Administering progestogens or progestogen-estrogen combinations or IUDs within 72 hours of intercourse has been found to be very effective as emergency contraceptives. They can be used to prevent a possible pregnancy resulting from rape or casual unprotected intercourse.

6. **Surgical methods**, also known as sterilization, are typically recommended for either the male or female partner as a permanent way to prevent further pregnancies. This surgical intervention blocks the transport of gametes, thus preventing conception. Vasectomy is the sterilization procedure for males, where a small part of the vas deferens is removed or tied through a small incision on the scrotum. Tubectomy is the female sterilization procedure, where a small part of the fallopian tube is removed or tied through a small incision in the abdomen or through the vagina. Although highly effective, these techniques have poor reversibility.



MEDICAL TERMINATION OF PREGNANCY

- The intentional or voluntary ending of a pregnancy before full term is known as medical termination of pregnancy (MTP) or induced abortion. Around 45 to 50 million MTPs are performed worldwide each year, accounting for one-fifth of all conceived pregnancies annually. While MTP plays a role in reducing population, its primary purpose is not for that. The debate over whether to accept or legalize MTP exists in many countries due to emotional, ethical, religious, and social considerations. In 1971, the Government of India legalized MTP with strict conditions to prevent misuse, especially in addressing the issue of indiscriminate and illegal female foeticides prevalent in the country.
- MTP is carried out to end unwanted pregnancies resulting from casual unprotected intercourse, contraceptive failure during coitus, or cases of rape. It is also necessary in situations where continuing the pregnancy could be harmful or fatal to the mother, the fetus, or both. MTPs are generally considered safer during the first trimester (up to 12 weeks of pregnancy), while second-trimester abortions carry more risks. A concerning trend is the majority of MTPs being performed illegally by unqualified practitioners, which is not only unsafe but can also be fatal.
- Another dangerous trend involves the misuse of amniocentesis to determine the unborn child's sex. If the fetus is female, it is often followed by an MTP, which is illegal. Such practices are risky for both the young mother and the fetus. Effective counseling on the importance of avoiding unprotected intercourse and the risks associated with illegal abortions, along with improved healthcare facilities, could help reverse these harmful trends.

Medical termination of pregnancy (MTP)

- When a pregnancy is intentionally ended before full term, it's known as medical termination of pregnancy (MTP) or induced abortion. Even though MTP isn't intended for population control, it does play a role in reducing population growth.
- Worldwide, about 45 to 50 million MTPs are performed each year, which is around one-fifth of the total number of pregnancies. In 1971, the Government of India legalized MTP with strict conditions to prevent misuse.
- Why opt for MTP? The answer lies in its purpose to end unwanted pregnancies, whether resulting from casual unprotected intercourse, contraceptive failure during coitus, or cases of rape.
- MTPs are necessary in situations where continuing the pregnancy could be harmful or fatal to the mother, the fetus, or both. They are generally considered safe during the first trimester (up to 12 weeks of pregnancy), though the legal limit extends up to 20 weeks.
- Second-trimester abortions are much riskier.