

Long Answer Questions (PYQ)

[5 Marks]

Q.1. A large number of married couples the world over are childless. It is shocking to know that in India the female partner is often blamed for the couple being childless.

Q. Why in your opinion the female partner is often blamed for such situations in India?

Ans. Female partner is often blamed due to following reasons:

- (i) social mind set
- (ii) inequality of sexes
- (iii) lack of awareness/male dominated society.
- (iv) Awareness to be created that abnormality can occur in both male and females and infertility issues with suitable examples
- (v) Mutual respect towards both the partners in case of the problem and to find the remedy from medical experts
- (vi) Educate them to find the reason and not believe in superstitions.

Q. State any two reasons responsible for the cause of infertility.

Ans. Infertility is caused due to physical abnormality in reproductive system, congenital, immunological or psychological problems.

Q. Suggest a technique that can help the couple to have a child where the problem is with the male partner.

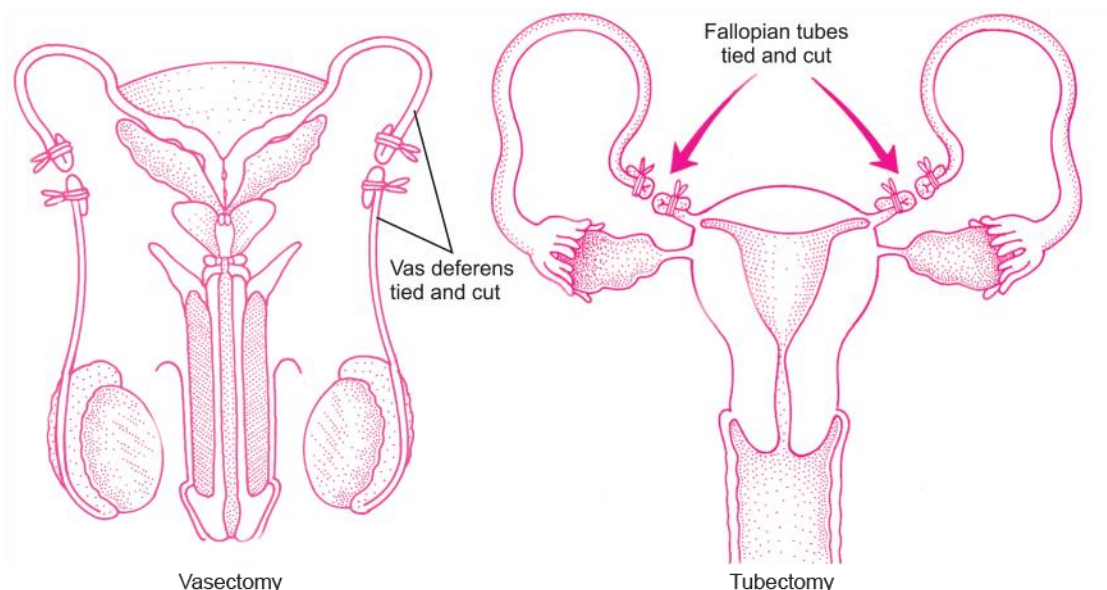
Ans. Intra cytoplasmic sperm injection (ICSI), artificial insemination (AI), Intra uterine insemination (IUI) can help couples where the problem is with male partner.

Q.2. Name and explain the surgical method advised to human males and females as a means of birth control. Mention its one advantage and one disadvantage.

Ans. Surgical methods (Sterilisation)

- These are terminal and permanent methods which block the transport of gametes, thereby preventing conception.
- In males, a small part of the vas deferens is removed and tied up through a small incision on the scrotum. This is called vasectomy.

- In females, a small part of the fallopian tube is removed and tied up through a small incision in the abdomen or vagina. This is called tubectomy.



Sterilisation methods

Advantage: It is the permanent and most effective method of preventing contraception as it blocks transport of gametes.

Disadvantage: This process of surgical methods is irreversible.

Long Answer Questions (OIQ)

[5 Marks]

Q.1. What do you mean by reproductive health? Mention the different ways in which people are made aware of the significance of reproductively healthy society.

Ans. Reproductive health means total well being in all aspects of reproduction, i.e., physical, emotional, behavioural, social and physiological.

Following measures are needed to make people aware of reproductively healthy society:

- Providing infrastructural facilities and professional expertise to attain reproductive health.
- Educating people about birth control methods, care of pregnant mothers, importance of breast feeding, safe and hygienic sexual practices and safeguard against STDs.

(iii) Introduction of sex education in schools to give proper information to the young minds about sex-related aspects.

(iv) Help of audio–visual and print-media to create awareness among people about reproduction related aspects.

(v) Awareness of problems due to population explosion, social evils like sex abuse and sex-related crimes.

(vi) Statutory ban on amniocentesis to legally check female foeticides.

Q.2. A village health worker was taking a session with women. She tells the women that one has to be very careful while using oral pills as method of birth control. Wrong usage can actually promote conception.

Q. Analyse the statement and compare the merits and demerits of using oral pills and surgical methods of birth control.

Ans.

	Contraceptive pills	Surgical methods
Merits	<ol style="list-style-type: none">1. Pills are effective with lesser side effects and well accepted by females.2. Reversible method.	<ol style="list-style-type: none">1. Surgical intervention block gamete transport.2. Highly effective.
Demerits	<ol style="list-style-type: none">1. If not taken on right days they can promote conception.2. Can have side effects if taken for a long time.	<ol style="list-style-type: none">1. Not reversible.2. Can affect health of a person if performed in unhygienic condition.

Q. Village women were confused as to how a thin metallic copper loop can provide protection against pregnancy. Justify the use, explaining the mode of action of IUDs.

Ans. Mode of action of IUDs

(i) Increase Phagocytosis of sperms within the uterus.

(ii) Cu^{++} released suppress sperm motility.

(iii) Hormone releasing IUDs make uterus unsuitable for implantation.

Q.3. Describe the various methods of birth control.

Ans. TAKE STEP BY STEP

Birth Control

The most important step to control population growth is to motivate smaller families by using various contraceptive methods.

An ideal contraceptive should be:

- user-friendly
- easily available
- effective and reversible with no or least side-effects
- non-interfering with the sexual drive/desire and/or the sexual act of the user.

Methods of Birth Control

The contraceptive methods are divided into following categories:

1. Natural/traditional methods
2. Barrier methods
3. Intra uterine devices (IUDs)
4. Oral contraceptives
5. Injections and implants
6. Surgical methods.

Natural methods

- These are natural methods that work on the principle of avoiding the meeting of ovum and sperm.
 1. **Periodic abstinence** is a method in which a couple avoids or abstains from coitus from day 10–17 of the menstrual cycle, when ovulation is expected to occur.
 2. **Coitus interruptus** or withdrawal is a method in which male partner withdraws his penis from the vagina just before ejaculation so as to avoid insemination.
 3. **Lactational amenorrhea** is based on the principle that during the period of lactation after parturition, ovulation does not occur.

Barrier methods

- These methods prevent the contact of sperm and ovum with the help of barriers. Such methods are available for both males and females.
 1. **Condoms** are barriers made of thin rubber/latex sheath used to cover the penis in the male or vagina and cervix in females. It prevents the deposition of ejaculated semen into the vagina of the female.

2. **Diaphragms, cervical caps and vaults** are the barriers made of rubber that are inserted into the female reproductive tract to cover the cervix during coitus. They prevent the entry of sperms through cervix.
3. **Spermicidal creams, jellies and foams** are used along with these barriers to increase their contraceptive efficiency.

Intra uterine devices (IUDs)

- These devices are inserted by doctors in the uterus through vagina.
- There are three types of IUDs available:
 1. **Non-medicated IUDs:** These increase phagocytosis of sperms within the uterus, e.g., Lippes loop.
 2. **Copper releasing IUDs:** Along with phagocytosis of sperms, the copper ions released suppress sperm motility and fertilising capacity of sperms, e.g., CuT, Cu 7, Multiload 375.
 3. **Hormone releasing IUDs:** These make the uterus unsuitable for implantation and the cervix hostile to sperms, e.g., Progestasert, LNG-20.

Oral contraceptive

- This involves uptake of hormonal preparations of either progestogens or progestogen– estrogen combinations in the form of **pills** by females.
- They inhibit ovulation and implantation as well as alter the quality of cervical mucus to prevent entry of sperms.
- ‘*Saheli*’, an oral contraceptive for females containing a non-steroidal preparation was developed by scientists at Central Drug Research Institute (CDRI) in Lucknow.
- Pills have high contraceptive value and few side effects.

Injections and implants

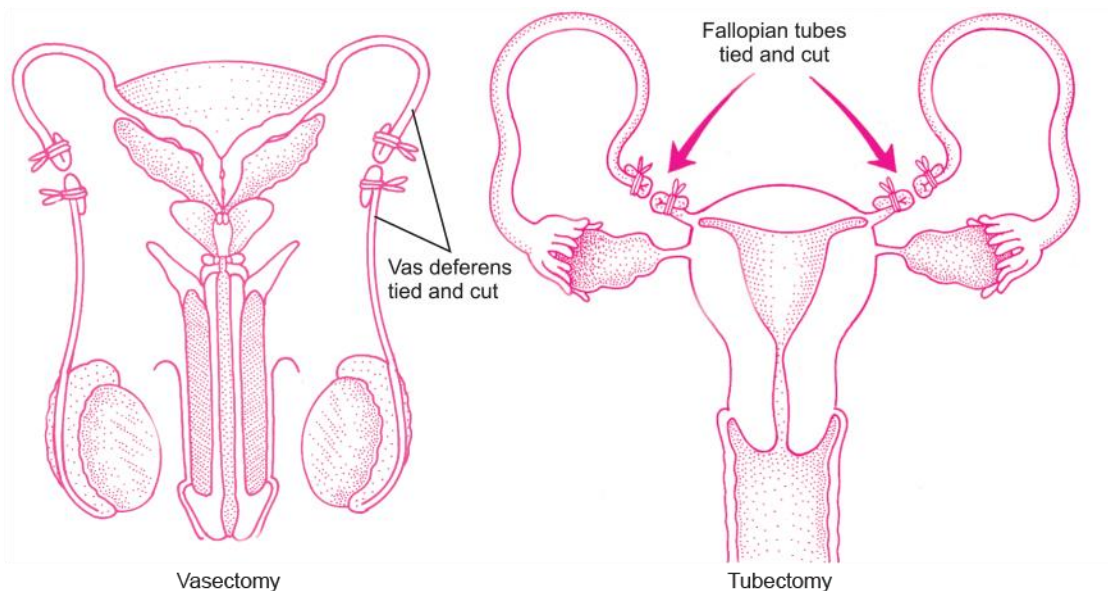
- Progestogens or progestogen–estrogen combination can also be used by females as injections or implants under the skin.
- Their mode of action is similar to that of pills but their effective periods are longer.

Surgical methods (Sterilisation)

- These are terminal and permanent methods which block the transport of gametes, thereby preventing conception.
- In males, a small part of the vas deferens is removed and tied up through a small incision on the scrotum. This is called **vasectomy**.
- In females, a small part of the fallopian tube is removed and tied up through a small incision in the abdomen or vagina. This is called **tubectomy**.

Q.4. Describe vasectomy and tubectomy with diagram.

Ans. Vasectomy and tubectomy are permanent methods of contraception and are also known as sterilisation techniques. These methods are generally advised to male or female partner as a terminal method to prevent any more pregnancies. It blocks gamete transport and thereby prevents conception. In vasectomy, a small part of the vas deferens is removed and then tied up through a small incision on the scrotum whereas in tubectomy a small part of the fallopian tube is removed and then tied up through a small incision in the abdomen or through vagina. These techniques are highly effective but their reversibility is very poor.



Sterilisation methods

Q.5. What are the Assisted Reproductive Techniques practised to help infertile couples? Describe any three techniques.

Ans. The infertile couples could be assisted to have children through certain special techniques called assisted reproductive technologies (ART), which are given below.

(i) Test Tube Baby Programmes

In this method, ova from the wife/donor (female) and the sperms from the husband/donor (male) are collected and induced to form zygote under simulated conditions in the laboratory. This process is called in vitro fertilisation (IVF).

The zygote or early embryo with up to 8 blastomeres is transferred into the fallopian tube (process is called zygote intra fallopian transfer or ZIFT) and embryo with more than 8 blastomeres is transferred into the uterus (process is called intra uterine transfer or IUT).

In females who cannot conceive, embryos formed by fusion of gametes in another female (called in vivo fertilisation) are transferred.

(ii) Gamete Intra Fallopian Transfer (GIFT)

It is the 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 further development of the embryo.

(iii) Intra Cytoplasmic Sperm Injection (ICSI)

It is a procedure to form an embryo in the laboratory by directly injecting the sperm into an ovum.

(iv) Artificial Insemination (AI)

In this method, the semen collected either from the husband or a healthy donor is artificially introduced into the vagina or into the uterus (intra uterine insemination or IUI).

This technique is used in cases where the male is unable to inseminate sperms in the female reproductive tract or due to very low sperm counts in the ejaculation.

Q.6. STDs are a threat to reproductive health. Describe any two such diseases and suggest preventive measures.

Ans. Sexually Transmitted Diseases (STDs)

Infections or diseases that are transmitted through sexual intercourse are collectively called sexually transmitted diseases (STDs) or venereal diseases (VD) or reproductive tract infections (RTI). These include gonorrhoea, syphilis, genital herpes, chlamydiasis, genital warts, trichomoniasis, hepatitis-B, HIV.

Early symptoms: Itching, fluid discharge, slight pain and swellings in the genital region.

Complications due to chronic STDs: Pelvic inflammatory diseases (PID), abortions, still births, ectopic pregnancies, infertility, or even cancer of the reproductive tract.

Transmission of hepatitis-B and HIV occurs by the following ways:

- i. Sharing of injection needles or surgical instruments with infected persons;
- ii. transfusion of infected blood;
- iii. transfer from infected mother to the foetus through placenta.

By following simple principles, STDs can be prevented:

1. Avoid sex with unknown partners/multiple partners.
2. Always use condoms during coitus.
3. Contact a qualified doctor for any doubt, in early stage of infection.

Q.7. Expand the following:

- i. ART
- ii. GIFT
- iii. ICSI
- iv. RTI
- v. IUI

Ans.

- i. ART: Assisted Reproductive Technology
- ii. GIFT: Gamete Intra Fallopian Transfer
- iii. ICST: Intra Cytoplasmic Sperm Injection
- iv. RTI: Reproductive Tract Infections
- v. IUI: Intra Uterine Insemination