

Reproductive Health

Introduction

According to the World Health Organization (WHO), reproductive health means a total well-being in all aspects of reproduction, i.e., physical, emotional, behavioral and social. Therefore, a society with people having physically and functionally normal reproductive organs and normal emotional and behavioral interactions among them in all sex-related aspects might be called **reproductively healthy**.

Reproductive Health - Problems & Strategies

- India was amongst the first countries in the world to initiate action plans and programs at a national level to attain total reproductive health as a social goal. These programs called 'family planning' were initiated in 1951 and were periodically assessed over the past decades. In 1977 it changed into family welfare programme "**Reproductive and child health care (RCH) programme**"
- Family planning refers to practices that help individual to attain certain objectives
 - (i) To avoid unwanted Births
 - (ii) To Bring about wanted birth
 - (iii) To regulate the interval between pregnancies
 - (iv) To determine the number of children in family
- With the help of audio-visual and the print-media governmental and non-governmental agencies have taken various steps to create awareness among the people about reproduction related aspects. Parents, other close relatives, teachers and friends, also have a major role in the dissemination of the above information. Introduction of sex education in schools should also be encouraged to provide right information to the young so as to discourage children from believing in myths and having misconceptions about sex-related aspects.
- Proper information about reproductive organs, adolescence and related changes, safe and hygienic sexual practices, sexually transmitted diseases (STD), AIDS, etc., would help people, especially those in the adolescent age group to lead a reproductively healthy life.
- Educating people, especially fertile couples and those in marriageable age group, about available birth control options, care of pregnant mothers, post-natal care of the mother and child, importance of breast feeding, equal opportunities for the male and the female child, etc., would address the importance of bringing up socially conscious healthy families of desired size.
- Awareness of problems due to uncontrolled population growth, social evils like sex-abuse and sex-related crimes, etc., need to be created to enable people to think and take up necessary steps to prevent them and thereby build up a socially responsible and healthy society.

Population Stabilization and Birth Control

- In the last century an all-round development in various fields significantly improved the quality of life of the people. However, increased health facilities along with better living conditions had an explosive impact on the growth of population.
- The world population which was around 2 billion (2000 million) in 1900 rocketed to about 6 billions by 2000 & 7.2 billion in 2011. A similar trend was observed in India too. Our population which was approximately 350 million at the time of our independence reached close to the billion mark by 2011 and crossed 1.2 billion in May 2000. That means, every sixth person in the world is an Indian.

- A rapid decline in death rate, **maternal mortality rate** (MMR) and **infant mortality rate** (IMR) as well as an increase in number of people in reproductive age are probable reasons for this. Through our RCH programmes, though we could bring down the population growth rate, it was only marginal.
- According to the 2011 census report, the population growth rate was less than 2% i.e. 20/1000 /year, a rate at which our population could increase rapidly. Such an alarming growth rate could lead to an absolute scarcity of even the basic requirements, i.e., food, shelter and clothing, in spite of significant progress made in those areas. Therefore, the government was forced to take up serious measures to check this population growth rate.
- The most important step to overcome this problem is to motivate smaller families by using various contraceptive methods. You might have seen advertisements in the media as well as posters/bills, etc., showing a happy couple with two children with a slogan Hum Do Hamare Do (we two, our two). Many couples, mostly the young, urban, working ones have even adopted an 'one child norm'. Statutory raising of marriageable age of the female to 18 years and that of males to 21 years, and incentives given to couples with small families are two of the other measures taken to tackle this problem. Let us describe some of the commonly used contraceptive methods, which help prevent unwanted pregnancies.
- An ideal contraceptive should be user-friendly, easily available, effective and reversible with no or least side-effects. It also should in no way interfere with the sexual drive, desire and/or the sexual act of the user.

Contraceptive Method:

- The most important step to overcome this problem is to motivate smaller families by using various contraceptive methods.
- The method which prevent unwanted birth or pregnancies are called **contraceptive methods**.
- Characteristics of ideal contraceptive are:-
 - (i) User friendly,
 - (ii) Easily available
 - (iii) Effective
 - (iv) Reversible
 - (v) No or least side effects
 - (iv) No way interfere with the sexual drive, desire.
- A wide range of contraceptive methods are presently available which could be broadly grouped into the following categories, namely: Natural/Traditional Method, Barrier method, IUD's, surgical method, hormonal method.

(1) Natural Method:

- Work on the principle of avoiding chances of ovum and sperms meeting. As no medicines or devices are used in these methods, side effects are almost nil. Chances of failure, though, of this method are also high.
 - (a) Periodic abstinence** is one such method in which the couples avoid or abstain from coitus from **day 10 to 17 of the menstrual cycle** when ovulation could be expected. As chances of fertilization are very high during this period, it is called the **fertile period**. Therefore, by abstaining from coitus during this period, conception could be prevented.
 - (b) Withdrawal** or **coitus interruptus** is another method in which the male partner withdraws his penis from the vagina just before ejaculation so as to avoid insemination.

(c) **Lactational Amenorrhea** (absence of menstruation) method is based on the fact that ovulation and therefore the cycle do not occur during the period of intense lactation following parturition. Therefore, as long as the mother breast-feeds the child fully, chances of conception are almost nil. However, this method has been reported to be **effective only upto a maximum period of six months following parturition**.

(2) Barrier Methods:

In barrier methods, ovum and sperms are prevented from physically meeting with the help of barriers. Such methods are available for both males and females.

(a) **Condoms** are 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. This can prevent conception (Fertilization). 'Nirodh' is a popular brand of condom for the male. Use of condoms has increased in recent years due to its additional benefit of protecting the user from contracting STDs and AIDS. Both the male and the female condoms are disposable, can be self-inserted and thereby gives privacy to the user.



Condom for male



Condom for Female

(b) **Diaphragms, cervical caps and vaults** are also barriers made of rubber that are inserted into the female reproductive tract to cover the cervix during coitus. They prevent conception by blocking the entry of sperms through the cervix. They are reusable. Spermicidal creams, jellies and foams are usually used along with these barriers to increase their contraceptive efficiency.

(3) Chemical Method:

In this method chemicals are used which are spermicidal agent or surface active agents which attach themselves to spermatozoa and inhibit O_2 uptake and kill sperm. These medicines are composed of chemicals like $ZnSO_4$, $KMnO_4$, Boric acid, Lactic acid, Citric acid. These chemicals completely destroy sperms so they are called as spermicides.

Example = "Nim-76" (Cream or Jelly), 'Today' (Vaginal Foam/Tablets)

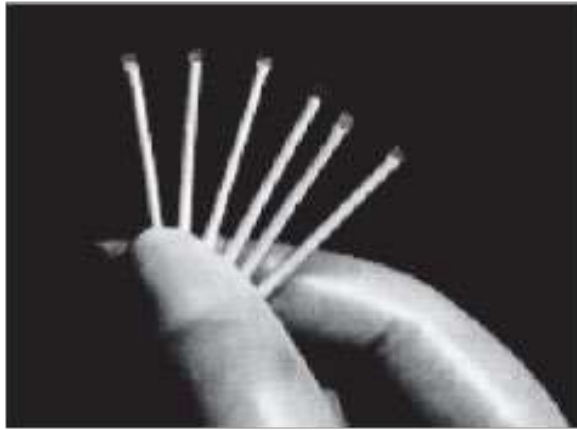
(4) Hormonal Method:

This is the most effective method (almost 100% effective). Most widely used contraceptive method. In this method oral pills, injections and implants are used.

Mala-N, Mala D → Daily Oral Pills

- Oral administration of small doses of either progestogens or progestogen-estrogen combinations is another contraceptive method used by the females. They are used in the form of tablets and hence are popularly called the pills. Pills have to be taken daily for a period of 21 days starting preferably within the first five 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. Pills are very effective with lesser side effects and are well accepted by the females.

- They inhibit ovulation and implantation as well as alter the quality of cervical mucus to prevent/retard entry of sperms.
- **Saheli** –the new oral contraceptive for the females contains a non-steroidal preparation. It is a '**once a week**' pill with very few side effects and high contraceptive value. It is developed by scientists at CDRI Lucknow.
- **Injection/Implants**– Progestogens alone or in combination with estrogen can also be used by females as injections or implants under the skin.
Their mode of action is similar to that of pills and their effective period is much longer.



Implants

- **Emergency Contraceptive Methods** which are used within 72 hours of unprotected sexual intercourse. Administration of progestogens or progestogen-estrogen combinations or IUDs within 72 hours of coitus have been found to be very effective as emergency contraceptives as they could be used to avoid possible pregnancy due to rape or casual unprotected intercourse. i-pill, Unwanted-72 (LNG), Mifepristone are emergency contraceptive pills.

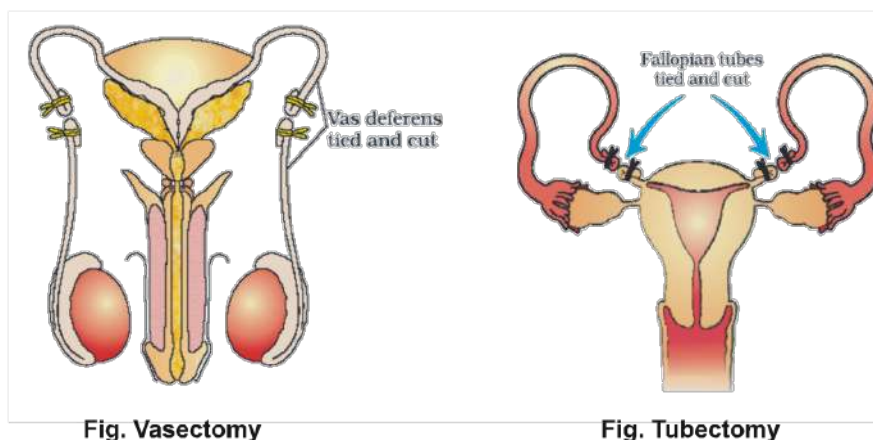
(5) Intra Uterine Devices (I.U.D.):

- These devices are inserted by doctors or expert nurses in the uterus through vagina. These devices are made of plastic, metal or a combination of the two and are inserted into the uterus to prevent conception.
- These Intra Uterine Devices are 3 types
 - (a) **Non-Medicated IUDs** (e.g., Lippes loop) = increase phagocytosis of sperms within the uterus. These devices are made of plastic with barium sulfate or stainless steel only.
 - (b) **Copper Releasing IUDs** (CuT, Cu7, Multiload 375) = Release copper ions which suppress sperm motility and the fertilising capacity of sperms.
 - (c) **Hormone Releasing IUDs** (Progestasert, LNG-20) = make the uterus unsuitable for implantation and the cervix hostile to the sperms.
- IUDs are ideal contraceptives for the females who want to delay pregnancy and/or space children. It is one of the most widely accepted methods of contraception in India.

(6) Surgical Method:

Surgical methods, also called **sterilization**, are generally advised for the male/female partner as a terminal method to prevent any more pregnancies. Surgical intervention blocks gamete transport and thereby prevent conception.

- Sterilization procedure in the male is called '**vasectomy**' and that in the female, '**tubectomy**'. In vasectomy, a small part of the vas deferens is removed or tied up through a small incision on the scrotum whereas in tubectomy, a small part of the fallopian tube is removed or tied up through a small incision in the abdomen or through vagina. These techniques are highly effective but their reversibility is very poor.



Medical Termination of Pregnancy (MTP)

- Intentional or voluntary termination of pregnancy before full term is called **medical termination of pregnancy (MTP)** or induced abortion.
- Nearly 45 to 50 million MTPs are performed in a year all over the world which accounts to 1/5th of the total number of conceived pregnancies in a year. Obviously, MTP has a significant role in decreasing the population though it is not meant for that purpose. Whether to accept/legalise MTP or not is being debated upon in many countries due to emotional, ethical, religious and social issues involved in it.
- **Government of India legalised MTP in 1971 with some strict conditions to avoid its misuse.** Such restrictions are all the more important to check indiscriminate and illegal female foeticides which are reported to be high in India.
- Why MTP? Obviously the answer is –to get rid of unwanted pregnancies either due to casual unprotected intercourse or failure of the contraceptive used during coitus or rapes. MTPs are also essential in certain cases where continuation of the pregnancy could be harmful even fatal either to the mother or to the foetus or both.
- **MTPs are considered relatively safe during the first trimester, i.e., upto 12 weeks of pregnancy.** Second trimester abortions are much more riskier.
- One disturbing trend observed is that a majority of the MTPs are performed illegally by unqualified quacks which are not only unsafe but could be fatal too. Another dangerous trend is the misuse of amniocentesis to determine the sex of the unborn child. Frequently, if the foetus is found to be female, it is followed by MTP- this is totally against what is legal. Such practices should be avoided because these are dangerous both for the young mother and the foetus.

- Condition of MTP:
 - (i) When pregnancy might endanger to mother's life.
 - (ii) When child being born with serious illness.
 - (iii) Where pregnancy is of rape.
 - (iv) If mother is having more than 2 to 3 child.
 - (v) Failure of contraceptive devices.

Medical Termination of Pregnancy:

The Medical Termination of pregnancy (Amendment) Act, 2017 was enacted by the government of India with the intension of reducing the incidence of illegal abortion and consequent maternal mortality and morbidity. According to this Act, a pregnancy may be terminated on certain considered ground within the first 12 weeks of pregnancy on the opinion of one registered medical practitioner. If the pregnancy has lasted more than 12 weeks, but fewer than 24 weeks, two registered medical practitioners must be of the opinion, formed in good faith, that the required grounds exist. The grounds for such termination of pregnancies are:

- (i) The continuation of the pregnancy would involve a risk to the life of the pregnant woman or of grave injury physical or mental health; or
- (ii) There is a substantial risk that of the child were born, it would suffer from such physical or mental abnormalities as to be seriously handicapped.

Concept Builder



1. According to the World Health Organization (WHO), reproductive health means a total well-being in all aspects of reproduction, that is:

| | |
|------------------------------|----------------------|
| (1) Physical | (2) Social |
| (3) Emotional and behavioral | (4) All of the above |
2. The first nation in the world to initiate various action plans at national level towards attaining a reproductively healthy society is:

| | | | |
|-----------|-----------|---------|------------|
| (1) India | (2) China | (3) USA | (4) Norway |
|-----------|-----------|---------|------------|
3. Male withdraws his penis just before ejaculation this method is know as –

| | |
|-------------------------|----------------------------|
| (1) Periodic abstinence | (2) Coitus interruptus |
| (3) Barrier methods | (4) Lactational amenorrhea |
4. Cu ions released from copper releasing Intra Uterine Devices (IUDs):

| | |
|-------------------------------------|---|
| (1) Prevent ovulation | (2) Make uterus unsuitable for implantation |
| (3) Increase phagocytosis of sperms | (4) Suppress sperm motility |
5. Condoms are one of the most popular contraceptives because of the following reasons:
 - (1) These are effective barriers for insemination
 - (2) Self inserted & gives privacy to users
 - (3) These help in reducing the risk of STDs
 - (4) All of the above

6. Identify method of contraception which is highly effective but has poor reversibility –
 (1) IUD (2) Barrier method (3) Sterilization (4) Oral pills
7. A popular brand "Nirodh" is know for –
 (1) IUD (2) Diaphragm
 (3) Contraceptive pill (4) Condom
8. Administration of progestogens or progestogen – estrogen combination or IUDs are very effective contraceptive methods if taken within ____ of coitus as they could be used to avoid possible pregnancy due to rape or casual unprotected intercourse.
 (1) 30 days (2) 15 days (3) 5 days (4) 72 hours

| Concept Builder (Answer-Key) | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|
| Que. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Ans. | 4 | 1 | 2 | 4 | 4 | 3 | 4 | 4 |

Sexually Transmitted Infections (STIs)

- Diseases or infections which are transmitted through sexual intercourse are collectively called **sexually transmitted infections** (STI) or venereal diseases (VD) or reproductive tract infections (RTI).
- Gonorrhoea, syphilis, genital herpes, chlamydiasis, genital warts, trichomoniasis, hepatitis-B and of course, the most discussed infection in the recent years, HIV leading to AIDS are some of the common STIs. Among these, **HIV infection is most dangerous**.
- Some of these infections like hepatitis-B and HIV can also be transmitted by sharing of injection needles, surgical instruments, etc., with infected persons, transfusion of blood, or from an infected mother to the foetus too.
- Except for hepatitis-B, genital herpes and HIV infections, other diseases are completely curable if detected early and treated properly.**
- Early symptoms of most of these are minor and include itching, fluid discharge, slight pain, swellings, etc., in the genital region. Infected females may often be asymptomatic and hence, may remain undetected for long. Absence or less significant symptoms in the early stages of infection and the social stigma attached to the STIs, deter the infected persons from going for timely detection and proper treatment. This could lead to complications later, which include **pelvic inflammatory diseases (PID), abortions, still births, ectopic pregnancies, infertility or even cancer of the reproductive tract**.
- STIs are a major threat to a healthy society. Therefore, prevention or early detection and cure of these diseases are given prime consideration under the reproductive health-care programmes.
- Though all persons are vulnerable to these infections, their incidences are reported to be very high among persons in the age group of 15-24 years – the age group to which you also belong. Don't panic. Prevention is in your hands.

- Preventive measures -
 - (i) Avoid sex with unknown partners/multiple partners.
 - (ii) Always use condoms during coitus.
 - (iii) In case of doubt, go to a qualified doctor for early detection and get complete treatment if diagnosed with disease.

| Name of STD | Pathogen |
|--------------------|-----------------------------------|
| (1) Gonorrhoea | Neisseria gonorrhoeae (bacterium) |
| (2) Genital herpes | Herpes simplex virus |
| (3) Genital warts | Human papilloma virus |
| (4) Syphilis | Treponema pallidum (bacterium) |
| (5) Trichomoniasis | Trichomonas vaginalis (protozoan) |
| (6) Chlamydiasis | Chlamydia trachomatis (bacterium) |

Infertility

- A large number of couples all over the world including India are infertile, i.e., they are unable to produce children in spite of unprotected sexual co-habitation. The reasons for this could be many—physical, congenital, diseases, drugs, immunological or even psychological.
- The couples could be assisted to have children through certain special techniques commonly known as assisted reproductive technologies (ART).

These technologies are of two type:

- (1) In Vitro Fertilization (IVF)** – If fertilization occur outside the body of female in almost similar conditions as that in the body and after it embryo transfer (ET) into uterus or fallopian tube of surrogate mother or same mother then it is called In Vitro Fertilization.
 - In this method, popularly known as test tube baby programme, ova from the wife/donor (female) and sperms from the husband/donor (male) are collected and are induced to form zygote under simulated conditions in the laboratory.
 - (a) Zygote Intra Fallopian Transfer (ZIFT):** The zygote or early embryos (with upto 8 blastomeres) could then be transferred into the fallopian tube.
 - (b) Intra uterine transfer (IUT):** If more than eight blastomeres (commonly 32 cells stage) transfer into uterus, this is called IUT.
 - (c) Intracytoplasmic Sperm Injection (ICSI):** It is an another specialised procedure to form an embryo in the laboratory in which a sperm is directly injected into the cytoplasm of ovum.
- (2) In vivo Fertilization** - If fertilization occurs inside the body of female either natural or artificial this is called in vivo fertilization (fusion of gametes within the female)
 - (a) 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.

- (b) Artificial Insemination** - Due to inability of the male partner to inseminate the female or due to very low sperm counts in the ejaculates, could be corrected by artificial insemination (AI) technique. In this technique, the semen collected either from the husband or a healthy donor is artificially introduced either into the vagina or into the uterus (IUI – intra-uterine insemination) of the female.

Concept Builder



1. When the correction of infertility is not possible in infertility clinics then the couples could be assisted to have children through certain special technique commonly called as:
(1) RCH (2) ART (3) MTP (4) RTI
2. The method of directly injecting a sperm into ovum in assisted reproductive technology is called?
(1) GIFT (2) ZIFT (3) ICSI (4) ET
3. In which of the following technique is in-vivo:
(1) ZIFT (2) GIFT (3) ICSI (4) IUT
4. IVF technique includes:
(1) GIFT (2) A.I. (3) IUT (4) All the above

| Concept Builder (Answer-Key) | | | | |
|------------------------------|---|---|---|---|
| Que. | 1 | 2 | 3 | 4 |
| Ans. | 2 | 3 | 2 | 3 |

Exercise – I

1. By which name years **"family planning"** is currently popular?
(1) Family and child care
(2) Reproductive and child care
(3) Reproductive and child health care
(4) Reproductive and child health
2. In India, marriageable age for boys is.....and girls isrespectively.
(1) 21, 18 years (2) 15, 14 years
(3) 15, 18 years (4) 18, 21 years
3. In the rhythm method of birth control, the couple abstain from intercourse:
(1) One day before and after ovulation
(2) Two days before and after ovulation
(3) Three days before and after ovulation
(4) One week before and after ovulation
4. What is **correct** about test tube baby?
(1) Fertilization inside female genital tract and growth in test tube
(2) Rearing of prematurely born baby in incubator
(3) Fertilization outside and gestation inside womb of mother
(4) Both fertilization and development are effected outside the female genital tract
5. Which of the following is a reusable contraceptive device made up of soft rubber?
(1) Condom (2) Implant
(3) Progestasert (4) Diaphragm
6. Purpose of tubectomy is to prevent:
(1) Egg formation
(2) Embryonic development
(3) Fertilization
(4) Coitus
7. Vasectomy is:
(1) Cutting of fallopian tube
(2) Cutting of vasdeferens
(3) Factor of population growth
(4) Removing of uterus
8. An IUD'S is:
(1) Vasectomy (2) Copper T
(3) Condom (4) Diaphragm
9. A contraceptive is:
(1) Condom, cervical cap and diaphragm
(2) Intrauterine device
(3) Pill
(4) All the above
10. A contraceptive pill contains -
(1) Progesterone and estrogen
(2) Spermicidal salts
(3) Chemicals that cause automatic abortion
(4) Chemicals that prevent fertilization of ovum
11. The partner responsible for sex of the child is -
(1) Male
(2) Female
(3) Both
(4) Some times male & some times female
12. MTP is:
(1) Multi trade practices
(2) Malthusian treatise on population
(3) Multiple temporary frequency
(4) Medical termination of pregnancy
13. A contraceptive pill prevent ovulation by:
(1) Blocking fallopian tube
(2) Inhibiting release of FSH & LH
(3) Stimulating release of FSH & LH
(4) Causing immedediate degeneration of released ovum
14. Oral contraceptives contain:
(1) Progesterone (2) LH
(3) Oxytocin (4) Steroles
15. Amniocentesis is used for determining:
(1) Heart diseases
(2) Brain diseases
(3) Hereditary diseases of embryo
(4) All the above

16. Tubectomy, a method of population control is performed on:
 (1) Both males & females
 (2) Males only
 (3) Females only
 (4) Only pregnant females only
17. Which is related to males?
 (1) IUD's (2) Tubectomy
 (3) Vesectomy (4) Cervical cape
18. In which method no medicine or device are used?
 (1) Barrier Method (2) Surgical Method
 (3) Oral Contraceptive (4) Natural Method
19. All the following statements about ZIFT are correct, but one is **wrong**. Which one is **wrong**?
 (1) It is zygote intra fallopian transfer
 (2) Zygote is transferred into the fallopian tube after IVF
 (3) Early embryos upto 8 blastomeres can also be transferred into the fallopian tubes
 (4) Embryos with more than 8 blastomeres are also transferred into the fallopian tubes.
20. Consider the following statements with two blanks **A** and **B**. Select the option which **correctly** fills up these blanks. Government of India legalised MTP in **A** with some strict conditions to avoid its misuse. Such restrictions are all the more important to check indiscriminate and illegal **B** foeticides which are reported to be high in India.
- | A | B |
|----------|----------|
| (1) 1951 | Female |
| (2) 1971 | Male |
| (3) 1971 | Female |
| (4) 1951 | Male |

21. Consider the following four statements **A, B, C and D** and state whether they are **true (T)** or **false (F)**:
 (A) STDs are reported to be very high among persons in the age group of 15-24 years.
 (B) MTP has a significant role in decreasing the population through it is not meant for that purpose.
 (C) Vasectomy and Tubectomy are highly effective but their reversibility is very poor.
 (D) Copper releasing IUDs are CuT, Cu7, LNG-20
- | | A | B | C | D |
|-----|----------|----------|----------|----------|
| (1) | T | T | T | T |
| (2) | T | F | T | F |
| (3) | T | T | T | F |
| (4) | T | F | F | T |
22. Gamete intra-fallopian transfer involves:
 (1) Collection of ovum from donor
 (2) Transfer of ovum collected from a donor into the fallopian tube of recipient female.
 (3) Both (1) and (2)
 (4) More than 8 Blastomeres transfer to fallopian tube.
23. Sterilization procedures are very effective in preventing pregnancy as they:
 (1) Block gamete transport and hence prevent fertilization
 (2) Prevent gametogenesis
 (3) Prevent release of gonadotropic hormones
 (4) Their reversibility is high
24. Which of the following technique involves *in vivo* fertilization?
 (a) GIFT
 (b) IUI
 (c) ICSI
 (d) Test-tube baby programme
 (1) (a), (b) and (c)
 (2) (a), (b), (c) and (d)
 (3) Only (a)
 (4) (a) and (b)

25. Spermicidal creams, jellies and foams are usually used along with the barrier methods to:
 - (1) Increase their conception efficiency
 - (2) Decrease their conceptive efficiency
 - (3) Increase their contraceptive efficiency
 - (4) Provide motility to sperms
 26. Emergency contraceptive could be used to avoid possible pregnancy due to:
 - (1) Casual unprotected intercourse
 - (2) Rape
 - (3) MTP
 - (4) Both (1) and (2)
 27. What is **true** about "**Saheli**"?
 - (i) Developed at the CDRI, Lucknow
 - (ii) Contains a steroidal preparation
 - (iii) "Once-a-week" pill
 - (iv) Many side effects
 - (v) High contraceptive value
 - (vi) Very few side effects
 - (vii) Low contraceptive value

(1) (i), (ii), (iii), (v), (vi) (2) (i), (iii), (v), (vi)
(3) (i), (ii), (iii), (iv), (v) (4) (i), (iii), (iv), (v)
 28. Which method can be used for women that cannot produce ovum but can provide suitable environment?
 - (1) IUD (2) GIFT
 - (3) IUI (4) ICSI
 29. Intensely lactating mothers do not generally conceive due to the:
 - (1) Suppression of gonadotropins
 - (2) Hypersecretion of gonadotropins
 - (3) Suppression of gametic transport
 - (4) Suppression of fertilization
 30. Emergency contraceptives are effective if used within:
 - (1) 72 hrs of coitus
 - (2) 12 hrs of ovulation
 - (3) 72 hrs of menstruation
 - (4) 72 hrs of implantation
 31. Choose the **correct** statement regarding the ZIFT procedure:
 - (1) Ova collected from a female donor are transferred to the Fallopian tube to facilitate zygote formation.
 - (2) Zygote is collected and transferred to the Fallopian tube.
 - (3) Zygote is collected from a female donor and transferred to the uterus.
 - (4) Ova collected from a donor and transferred to the uterus.
 32. There is no menstruation and ovulation during intense lactation following parturition. This can be used as a method of contraception which is effective only upto maximum period of:
 - (1) 6 weeks (2) 8 weeks
 - (3) 12 months (4) 6 months
 33. Sterilisation techniques are generally fool proof methods of contraception with least side effects. Yet, this is the last option for the couples because:
 - (i) It is almost irreversible
 - (ii) It is highly effective.
 - (iii) It is a surgical procedure
 - (iv) Surgical blocks gametes Transport and there by prevent conception.

Choose the **correct** option:

(1) i and iii (2) ii and iii
(3) ii and iv (4) i, ii, iii and iv
 34. Choose the right one among the statements given below:
 - (1) IUDs are generally inserted by the user herself
 - (2) IUDs increase phagocytosis reaction in the uterus
 - (3) IUDs suppress gametogenesis
 - (4) IUDs once inserted need not be replaced

| ANSWER KEY | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Que. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Ans. | 3 | 1 | 3 | 3 | 4 | 3 | 2 | 2 | 4 | 1 | 1 | 4 | 2 | 1 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 2 | 1 | 4 | 3 |
| Que. | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | | | | | | | | | | | | | | | | |
| Ans. | 4 | 2 | 2 | 1 | 1 | 2 | 4 | 4 | 2 | | | | | | | | | | | | | | | | |

Exercise – II

1. Among the following methods, which one has the highest failure rate?
 (1) Diaphragm with spermicide
 (2) Condom
 (3) Intrauterine device
 (4) Rhythm method
2. Which of the following statement is/are **correct** about diaphragms, cervical caps and vaults?
 A. Barrier methods of contraception
 B. Cover the cervix during coitus
 C. Protect the user from contracting STDs
 D. They are reusable
 (1) A & B only
 (2) A, B & C
 (3) A, B & D
 (4) A, B, C & D
3. One of amongst first countries of world which adopt family planning programme
 (1) Japan (2) USA
 (3) India (4) Bangladesh
4. Govt. sponsored “family planning programme” in:
 (1) 1947 (2) 1951
 (3) 1977 (4) 1965
5. **Saheli**, A female antifertility pills is used
 (1) Daily
 (2) Weekly
 (3) Quarterly
 (4) Monthly
6. Test tube baby means a baby born when:
 (1) It is developed in a test tube
 (2) It is developed through tissue culture method
 (3) The ovum is fertilised externally and there after implanted in the uterus
 (4) It develops from a non-fertilized egg
7. What is the work of **copper-T**?
 (1) To inhibit ovulation
 (2) To prevent fertilization
 (3) To inhibit implantation of blastocyst
 (4) To inhibit gametogenesis
8. Which of the following is a nonsteroidal pill?
 (1) Mala-D (2) Mala-N
 (3) Saheli (4) Both (1) and (2)
9. Which of the following contraceptive method make uterus unsuitable for implantation?
 (1) Diaphragm (2) Condom
 (3) IUD (4) Natural method
10. Which of the following is natural method of contraception?
 (1) Sterilization
 (2) IUD
 (3) Diaphragm
 (4) Periodic abstinence
11. Implants under the skin are used as contraceptive device. These devices has:
 (1) Progestogens alone
 (2) Estrogen alone
 (3) Progestogen–estrogen combination
 (4) Progestogens alone or Progestogen – estrogen combination
12. Which of the following can be used as an emergency contraceptive?
 (1) Mala-D (2) Saheli
 (3) i-pills (4) Condom
13. MTP is relatively safe during first_____ of pregnancy?
 (1) 12 week (2) 18 week
 (3) 24 week (4) 30 week
14. Which of the following method of contraception has least side effect?
 (1) IUD (2) Pills
 (3) Coitus interruptus (4) Cervical cap

- 15.** Which of the following methods of contraception prevents ovulation?
 (1) Pills (2) Depo-provera
 (3) Norplant (4) All the above
- 16.** In which of the following methods zygote upto 32 blastomere is transferred into the uterus:
 (1) IUT (2) ZIFT
 (3) GIFT (4) ICSI
- 17.** A contraceptive pill developed by the scientists of CDRI lucknow is:
 (1) Mala-D
 (2) Mala-N
 (3) Saheli
 (4) Quinestrol
- 18.** If male is impotent and female is normal then which of the following technique can be used?
 (1) ICSI
 (2) ZIFT
 (3) GIFT
 (4) Artificial insemination
- 19.** Which contraceptive method provides some protection against HIV?
 (1) IUD
 (2) Pills
 (3) Condom
 (4) Periodic abstinence
- 20.** Which of the following is not included under barrier methods of birth control?
 (1) Vaults
 (2) Diaphragm
 (3) Cervical cap
 (4) Implant
- 21.** Which one of the following is the most widely used method of contraception by females in India?
 (1) Oral contraceptive pills
 (2) Condoms
 (3) IUDs
 (4) Sterilisation
- 22.** The latest technique to produce a child is GIFT. The full form is:
 (1) Gametic Internal Fertilisation and Transfer
 (2) Gametic Intra Fallopian Transfer
 (3) Gametic Inter Fallopian Transfer
 (4) General Internal Fallopian Transfer
- 23.** RCH Stands of:
 (1) Reproductive and child Health care
 (2) Reproductive Cum Hygiene
 (3) Reproductive Check-up of Health
 (4) Reproductive of Child Health and Care
- 24.** If vasectomy is done, then which condition would occur in a male?
 (1) Teratospermia (2) Asthenospermia
 (3) Azospermia (4) Both (1) and (2)
- 25.** Example of the non-medicated IUD is:
 (1) Cu-T (2) Cu-7
 (3) Multiload-375 (4) Lippes loop
- 26.** Day of periodic abstinence is:
 (1) 10-11 days of menstrual phase
 (2) 10-17 days of menstrual phase
 (3) 17-20 days of menstrual phase
 (4) 20-28 days of menstrual phase
- 27.** The technique called Gamete Intra Fallopian Transfer (GIFT) is recommended for the females
 (1) Who can't produce an ovum
 (2) Who can't retain the foetus inside the uterus
 (3) Whose cervical canal is too narrow to allow the passage for the sperms
 (4) Who can't provide suitable environment for fertilisation
- 28.** Which hormone of the female body is suppressed by the oral contraceptive pills?
 (1) FSH (2) Estrogen
 (3) Progesterone (4) Testosterone

Exercise – III (Previous Year Questions)

[AIPMT-2008]

1. Consider the statements given below regarding contraception and answer as directed there after:
- Medical Termination of pregnancy MTP during first trimester is generally safe
 - Generally chances of conception are nil until mother breast feeds the infant upto two years
 - Intrauterine devices like copper T are effective contraceptives
 - Contraception pills may be taken upto one week after coitus to prevent conception

Which two of the above statements are **correct**?

- | | |
|----------|----------|
| (1) a, c | (2) a, b |
| (3) b, c | (4) c, d |

2. Given below are four methods (A-D) and their modes of action (a-d) in achieving contraception. Select the **correct** matching from the four options that follow:

| Method | Mode of Action |
|--------------|-------------------------------------|
| A. The pill | (a) Prevents sperms reaching cervix |
| B. Condom | (b) Prevents implantation |
| C. Vasectomy | (c) Prevents Ovulation |
| D. Copper T | (d) Semen contains no sperms |

Matching:

- A - (c), B - (d), C - (a), D - (b)
- A - (b), B - (c), C - (a), D - (d)
- A - (c), B - (a), C - (d), D - (b)
- A - (d), B - (a), C - (b), D - (c)

[AIPMT-2010]

3. In Vitro Fertilisation is a technique that involves transfer of which one of the following into the fallopian tube:
- Zygote only,
 - Embryo only, upto 8 cell stage
 - Either zygote or early embryo upto 8 cell stage
 - Embryo of 32 cell stage.
4. The permissible use of the technique amniocentesis is for:
- Detecting any genetic abnormality
 - Detecting sex of the unborn foetus
 - Artificial insemination
 - Transfer of embryo into the uterus of a surrogate mother
5. Cu ions released from copper-releasing Intra Uterine Devices (IUDs):
- Prevent ovulation
 - Make uterus unsuitable for implantation
 - Increase phagocytosis of sperms
 - Suppress sperm motility

[AIPMT-2011]

6. Which one of the following is the most widely accepted method of contraception in India, as at present?
- Cervical caps
 - Tubectomy
 - Diaphragms
 - IUD's (Intra Uterine Devices)
7. Medical Termination of pregnancy (MTP) is considered safe upto how many weeks of pregnancy:
- Eight weeks
 - Twelve weeks
 - Eighteen weeks
 - Six weeks

8. The technique called gamete intrafallopian transfer (GIFT) is recommended for those females.

- (1) Whose cervical canal is too narrow to allow passage for the sperms
- (2) Who cannot provide suitable environment for fertilisation
- (3) Who cannot produce an ovum
- (4) Who cannot retain the foetus inside uterus

[AIPMT-2012]

9. The Test-tube Baby programme employs which one of the following techniques?

- (1) Gamete intra fallopian transfer (GIFT)
- (2) Zygote intra fallopian transfer (ZIFT)
- (3) Intra cytoplasmic sperm injection (ICSI)
- (4) Intra uterine insemination (IUI)

[AIPMT-2013]

10. Artificial insemination means:

- (1) Introduction of sperms of a healthy donor directly into the ovary
- (2) Transfer of sperms of a healthy donor to a test tube containing ova
- (3) Transfer of sperms of husband to a test tube containing ova
- (4) Artificial introduction of sperms of a healthy donor into the vagina

[AIPMT-2014]

11. Tubectomy is a method of sterilization in which:

- (1) Small part of the fallopian tube is removed or tied up
- (2) Ovaries are removed surgically.
- (3) Small part of vas deferens is removed or ties up
- (4) Uterus is removed surgically.

12. Which of the following is a hormone releasing Intra Uterine Device (IUD)?

- (1) Multiload 375
- (2) LNG-20
- (3) Cervical cap
- (4) Vault

13. Assisted reproductive technology, IVF involves transfer of:

- (1) Ovum into the fallopian tube
- (2) Zygote into the fallopian tube
- (3) Zygote into the uterus
- (4) Embryo with 16 blastomeres into the fallopian tube

[AIPMT-2015]

14. A childless couple can be assisted to have a child through a technique called GIFT. The full form of this technique is:

- (1) Germ cell internal fallopian transfer
- (2) Gamete inseminated fallopian transfer
- (3) Gamete intra fallopian transfer
- (4) Gamete internal fertilization and transfer

[NEET 2016]

15. Which of the following approaches does **not** give the defined action of contraceptive?

| | | |
|-----|-------------------------|---|
| (1) | Barrier | Prevent fertilization |
| (2) | Intra uterine devices | Increase phagocytosis of sperms, suppress sperm motility and fertilizing capacity of sperms |
| (3) | Hormonal contraceptives | Prevent/retard entry of sperms, prevent ovulation and fertilization |
| (4) | Vasectomy | Prevents spermatogenesis |

16. Embryo with more than 16 blastomeres formed due to in vitro fertilization is transferred into:

- (1) Fimbriae
- (2) Cervix
- (3) Uterus
- (4) Fallopian tube

[NEET 2017]

17. The function of copper ions in copper releasing IUD's is:

- (1) They suppress sperm motility and fertilising capacity of sperms
- (2) They inhibit gametogenesis
- (3) They make uterus unsuitable for impanation
- (4) They inhibit ovulation

- 18.** In case of a couple where the male is having a very low sperm count, which technique will be suitable for fertilisation?
- (1) Intrauterine transfer
 - (2) Gamete intracytoplasmic fallopian transfer
 - (3) Artificial Insemination
 - (4) Intracytoplasmic sperm injection

[NEET 2018]

- 19.** The contraceptive 'SAHELI':
- (1) blocks estrogen receptors in the uterus, preventing eggs from getting implanted.
 - (2) increases the concentration of estrogen and prevents ovulation in females.
 - (3) is an IUD.
 - (4) is a post-coital contraceptive.

[NEET 2019]

- 20.** Select the hormone-releasing Intra-Uterine Devices.
- (1) Progestasert, LNG-20
 - (2) Lippes Loop, Multiload 375
 - (3) Vaults, LNG-20
 - (4) Multiload 375, Progestasert
- 21.** Which of the following contraceptive methods do involve a role of hormone?
- (1) CuT, Pills, Emergency contraceptives
 - (2) Pills, Emergency contraceptives, Barrier methods
 - (3) Lactational amenorrhea, Pills, Emergency contraceptives
 - (4) Barrier method, Lactational amenorrhea, Pills

[NEET 2020]

- 22.** In which of the following techniques, the embryos are transferred to assist those females who cannot conceive?
- (1) GIFT and ZIFT (2) ICSI and ZIFT
(3) GIFT and ICSI (4) ZIFT and IUT

[NEET 2021]

- 23.** Which one of the following is an example of Hormone releasing IUD ?
- (1) CuT (2) LNG 20
(3) Cu 7 (4) Multiload 375

- 24.** Match List - I with List - II.

| | List - I | | List - II |
|------------|-----------------|--------------|--|
| (a) | Vaults | (i) | Entry of sperm through Cervix is blocked |
| (b) | IUDs | (ii) | Removal of Vas deferens |
| (c) | Vasectomy | (iii) | Phagocytosis of sperms within the Uterus |
| (d) | Tubectomy | (iv) | Removal of fallopian tube |

Choose the correct answer from the options given below.

| | (a) | (b) | (c) | (d) |
|-----|-------|-------|-------|-------|
| (1) | (iv) | (ii) | (i) | (iii) |
| (2) | (i) | (iii) | (ii) | (iv) |
| (3) | (ii) | (iv) | (iii) | (i) |
| (4) | (iii) | (i) | (iv) | (ii) |

[NEET 2022]

- 25.** Lippe's loop is a type of contraceptive used as:
- (1) Cervical barrier
 - (2) Vault barrier
 - (3) Non-Medicated IUD
 - (4) Copper releasing IUD

- 26.** Match **List – I** with **List – II** with respect to methods of Contraception and their respective actions.

| List-I | List-II |
|----------------------------|--|
| (a) Diaphragms | (i) Inhibit ovulation and Implantation |
| (b) Contraceptive pills | (ii) Increase phagocytosis of sperm with Uterus |
| (c) Intra Uterine | (iii) Absence of Menstrual cycle and ovulation following parturition |
| (d) Lactational Amenorrhea | (iv) They cover the cervix blocking the entry of sperms |

Choose the **correct answer** from the options given below :

- (1) (a) – (iv), (b) – (i), (c) – (iii), (d) – (ii)
 (2) (a) – (iv), (b) – (i), (c) – (ii), (d) – (iii)
 (3) (a) – (ii), (b) – (iv), (c) – (i), (d) – (iii)
 (4) (a) – (iii), (b) – (ii), (c) – (i), (d) – (iv)

| ANSWER KEY | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Que. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Ans. | 1 | 3 | 3 | 1 | 4 | 4 | 2 | 3 | 2 | 4 | 1 | 2 | 2 | 3 | 4 | 3 | 1 | 3 | 1 | 1 | 3 | 4 | 2 | 2 | 3 |
| Que. | 26 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ans. | 2 | | | | | | | | | | | | | | | | | | | | | | | | |