

## 5. REPRODUCTIVE HEALTH AND SEXUALLY TRANSMITTED DISEASES

Generally adolescents don't have proper and scientific knowledge about sexual development. Adequate knowledge related to reproductive health and sexually transmitted disease should be provided to solve such problems. In this chapter we will study about reproductive health and sexually transmitted diseases.

### Reproductive health :

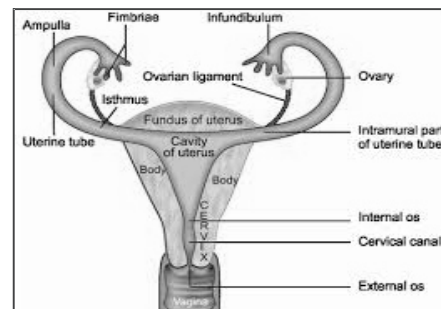
Human child is the corner stone of the society. Reproducing child is a natural process. Human reproduces child by inspired from the maternal and paternal feeling. One generation is replaced by the second one. Healthy reproductive system means that male and female reproductive organs work regularly and reproduce a healthy child. In other words reproductive health as a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity. Reproductive health or sexual health/hygiene, addresses the reproductive processes, function and system at all the stage of life.

Knowledge of male and female reproductive organs and their working is necessary to understand the reproductive health.

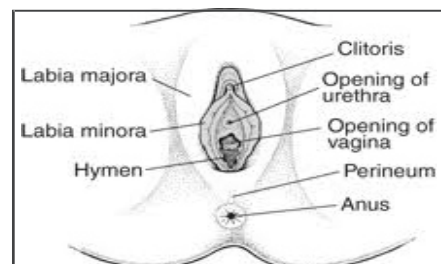
### Female reproductive organs :

1. **External reproductive organ:** The external genital organs include the mons pubic, labia majora, labia minora, bartholin glands and clitoris. The area having the organs is called the vulva. This organ helps to identify the sex of the child. This organ is small, flat and without hairs in childhood. This region also develops with the development of body.

2. **Internal reproductive organs:** The internal sex organs are the uterus, fallopian tubes and the ovaries. The uterus or womb accommodates the embryo which develops into the fetus. The ovaries produce the ova (egg cells). The ovaries are paired organs located on either side of the uterus. The ovaries are responsible for storing and releasing the ova or eggs, necessary for reproduction. Main function of ovaries is "menstrual cycle". A mature egg reaches to ovary per month. Human fertilization is the union of human egg and sperm. Zygote develops and gets nutrition in uterus. If egg fails to fertilize, it expell during next menstrual period.



Female internal reproductive organ



Female external reproductive organ

Fig. 5.1 : Female reproductive organ

## **Male reproductive organs :**

The male reproductive system includes the scrotum, testes, spermatic ducts, sex glands and penis. These organs work together to produce sperm, the male gamete and the other components of semen. These organs also work together to deliver semen out of the body and into the vagina where it can be fertilize egg cells to produce off springs. Testicles are responsible for the production of sperm and testosterone. The scrotum is made up of two side by side pouches with a testies located in each pouch. The prostate is a walnut sized exocrine gland that borders the inferior end of the urinary bladder and surrounds the urethra. The prostate produces a large portion of the fluid that make up semen which contains sperms. Only one sperm penetrate the egg and fertilization process occurs.

## **Point to be keeping in mind for reproductive health :**

- 1. Age of marriage :** It is necessary for boys and girls to be mature both physically and mentally for the reproductive health. This maturity attains in boys usually at the age of 21 and in girls at the age of 18. Hence the marriage of the boys and girls should be performed at the age 21 and 18 years respectively.
- 2. Physical hygiene :** Boys and girls should regularly clean their genital organs for reproductive health. Girls 'especially at the time menarche should clean her external organs. Infected organs hinder the process of reproduction.
- 3. Reproduction capacity/ ability :** When a boy or a girl is physically mature they can bear a child. Some couples are not able to bear child. In such condition male and female should consult a doctor and take treatment. If any one of them is weak or their reproductive health is poor then conception is not possible. In our society still females are responsible for not being pregnant. In such condition female are subjected to medical checkups but males are not mentally prepared for this. For any incapability found in male in such tests, male dominating society doesn't accept it. Hence, reproduction capacity is required in both male and female.

- 4. Mental health :** Couples should be mentally prepared for conception. Now a day's female also works outside with male. Both the couples gives priority to their job and career hence there is instability and decrease infertility relationships. Many couples due to the shortage of time do not take their family, social and economical responsibility and feel stress. This stress influences their reproductive health which directly affects their reproduction capacity.
- 5. Balance diet :** Husband and wife should consume balance diet for physical health according to the requirement. Deficiency diseases occur due to the insufficient nutrient in diet. In our country 90% females are suffering from anemia. Anemia not even affects their health but also their conception ability. Anemic females are more prone to miscarriages and high mother's mortality rate. Hence prevention and cure of anemia is necessary. Adolescent girls and female should take cheap and available iron rich food items like green leafy vegetables, whole grain, pulses, egg, meat, fish in their diet. Iron and folic acid tablets are distributed to the girls and female beneficiaries of anganwad, girls of govt school and govt. hospital for prevention and cure of this disease. Pregnant female is prescribed one tablet per day and one tablet per week is advised for girls.
- 6. Pregnancy Intervals :** Proper pregnancy interval determines reproductive health. There should be minimum three year interval between 2 children. During this interval, reproductive organ of female becomes ready for next conception. Family planning methods can help to maintain proper interval. Reproductive health is also necessary like normal health.

## **Sexual diseases :**

Diseases which mainly spread through sexual contact are called sexually transmitted disease. In this chapter, we will study AIDS, Gonorrhea and Syphilis.

- (I) AIDS :** AIDS is non curable disease, prevention is only cure. Full form of AIDS is Acquired immune- deficiency syndrome



**Fig. 5.1 : Sign of AIDS**

**A** = Acquired, not inherited

**I** = Weakens the Immune system

**D** = Creates a **D**eficiency of CD4+ cells in the immune system

**S** = Syndrome, or a group of illnesses taking place at the same time.

AIDS stands for Acquired Immune Deficiency Syndrome. AIDS is a serious condition that weakens the body's immune system, leaving it unable to fight for illness.

AIDS is the last stage in a progression of diseases resulting from a viral infection known as the Human Immunodeficiency Virus (HIV or AIDS virus). The disease include a number of unusual and severe infections, cancers and debilitating illnesses, resulting in severe weight loss or wasting away, and diseases affecting the brain and central nervous system.

There is no cure for HIV infection or AIDS nor a vaccine to prevent HIV infection. However, new medications not only can slow the progression of the infection, but can also markedly suppress the virus, thereby restoring the body's immune function and permitting many HIV-infected individuals to lead a normal, disease-free life.

According to **WHO**, 35 million people were suffering from this disease in 2013. In India 2.1 million people are suffering from HIV and from this data India has the third highest number of people living with HIV in the world. According to UN reports about 4 out of 10 people infected with the deadly virus in the Asia Pacific region.

AIDS is the leading cause of death among young people. Because more than half HIV infected people are of the age of 15-24 years. **“National**

**Programme for AIDS control”** has been started to prevent HIV and AIDS. First December is celebrated as World AIDS Day to aware people about this deadly disease.

The immune system is a network of cells, organs and proteins that work together to defend and protect the body from potentially harmful, infectious microorganisms (microscopic life-forms), such as bacteria, viruses, parasites and fungi. The immune system also plays a critical role in preventing the development and spread of many types of cancers. When the immune system is missing one or more of its components, the result is an immunodeficiency disorder. AIDS is an immunodeficiency disorder. Lymphocytes (white blood cells) are one of the main types of immune cells that make up the immune system. There are two types of lymphocytes: B cells and T cells. (T cells are also called CD4 cells, CD4 T cells, or CD4 cell lymphocytes). B cells secrete antibodies (proteins) into the body's fluids to ambush and attack antigens (foreign proteins such as bacteria, viruses or fungi). T cells directly attack and destroy infected or malignant cells in the body. There are two types of T cells: helper T cells and killer T cells. Helper T cells recognize the antigen and activate the killer T cells. Killer T cells then destroy the antigen. When HIV is introduced into the body, this virus is too strong for the helper T cells and killer T cells. The virus then invades these cells and starts to reproduce itself, thereby not only killing the CD4 T cells, but also spreading to infect otherwise healthy cells.



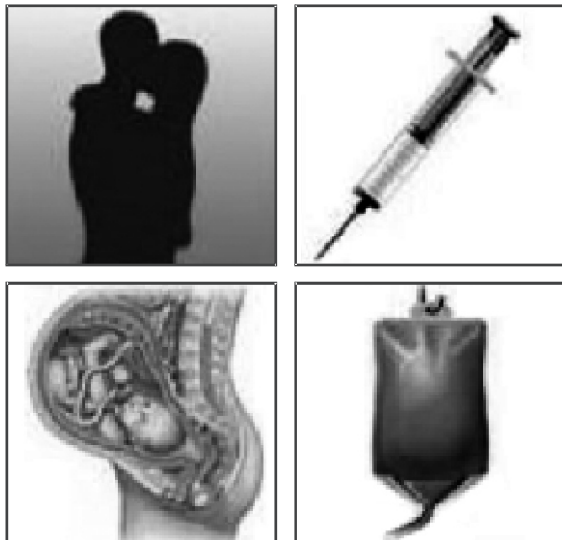
**Fig. 5.2 : Process of AIDS**

The HIV virus cannot be destroyed and lives in the body undetected for months or years before any sign of illness appears. Gradually, over many years or even decades, as the T cells become progressively destroyed or inactivated, other viruses, parasites or cancer cells (called “opportunistic diseases”) which would not have been able to get past a healthy body's defense, can multiply within the body without fear of destruction. Commonly seen opportunistic diseases in persons with HIV infection include: pneumocystis

carinii pneumonia, tuberculosis, candida (yeast) infection of the mouth, throat or vagina, shingles, cytomegalovirus retinitis and Kaposi's sarcoma.

### HIV is transmitted by

- Direct contact with infected blood
- Sexual contact: oral, anal, or vaginal
- Direct contact with semen or vaginal and cervical secretions
- HIV-infected mothers to infants during pregnancy, delivery, or breastfeeding



**Fig. 5.3 : Causes of AIDS**

### HIV is not transmitted by

- Coughing, sneezing
- Insect bites
- Touching, hugging
- Water, food
- Kissing
- Public baths
- Handshakes
- Work or school contact
- Using telephones
- Sharing cups, glasses, plates, or other utensils

### Prevention is cure :

There is no cure for HIV infection or AIDS nor a vaccine to prevent HIV infection.

- Don't have sexual contact with anyone who has symptoms of AIDS or who is a member of a

high risk group for AIDS.

- Avoid sexual contact with anyone who has had sex with people at risk of getting AIDS.
- Don't have sex with prostitutes.
- Avoid having sex with anyone who has multiple and/or anonymous sexual partners.
- Avoid oral, genital and anal contact with partner's blood, semen, vaginal secretions, feces or urine. Unless they know with absolute certainty that their partner is not infected, a latex condom should be used during each sexual act, from start to finish. The use of a spermicidal agent may provide additional protection.
- Avoid anal intercourse altogether.
- Don't share toothbrushes, razors or other implements that could become contaminated with the blood of anyone who is or might be infected with the AIDS virus.
- Exercise caution regarding procedures, such as acupuncture, tattooing, ear piercing, etc., in which needles or other nonsterile instruments may be used repeatedly to pierce the skin and/or mucous membranes.
- Such procedures are safe if proper sterilization methods are employed or disposable needles are used. Ask what precautions are taken before undergoing such procedures.
- If an individual is scheduling surgery in the near future, and is able, they could consider donating blood for their own use. This will eliminate completely the already very small risk of contracting AIDS through a blood transfusion. It will also eliminate the risk of contracting other blood borne diseases (such as hepatitis) from a transfusion.

Some people apparently remain well after infection of the AIDS virus. They may have no physically apparent symptoms of illness. However, if proper precautions are not used with sexual contacts and/or intravenous drug use, these infected individuals can spread the virus to others.

**(II) Syphilis :** Syphilis is a sexually transmitted infection caused by the bacterium *Treponema*



*pallidum* subspecies *pallidum*. Syphilis is most commonly spread through sexual activity. It may also be transmitted from mother to baby during pregnancy or at birth, resulting in congenital syphilis. Development period of *Treponema pallidum* is 14-28 days. There are two type of this disease-

1. Congenital
2. Adquired

### **Treatment :**

This disease can be treated within the two week of diagnosis. The bacteria of this disease *Treponema pallidum* is very sensitive to penicillin and destroy in the presence of antibiotics. To prevent this disease decrease promiscuity, prostitution, increase in use of condoms, safe sexual practices and sex education in school and colleges

**(III) Gonorrhea :** Gonorrhea is a sexually transmitted infection (STI) caused by the bacterium *Neisseria gonorrhoeae*. Many people have no symptoms. Men may have burning with urination, discharge from the penis, or testicular pain. Women may have burning with urination, vaginal discharge, vaginal bleeding between periods, or pelvic pain. Complications in women include pelvic inflammatory disease and in men include inflammation. If untreated; gonorrhea can spread to joints or heart valves.

### **Treatment :**

Prevention and treatment of this disease is same as Syphilis :

### **Important points :**

1. Reproductive organs are necessary to give birth.
2. Reproductive organ of both male and female should not have disease, blocked or infected to give birth to a healthy child .
3. The external genital organ of female includes the mons pubic, labia majora, abia minora, bartholin glands and clitoris. The internal sex organs are the uterus, fallopian tubes and the ovaries.
4. The male reproductive system includes the scrotum, testes, spermatic ducts, sex glands and penis.

5. Sperm fertilize egg cells to produce off springs.
6. This maturity attains in boys usually at the age of 21 and in girls at the age of 18. Hence the marriage of the boys and girls should be performed at the age 21 and 18 years respectively.
7. Reproductive health can be attained by following the dimensions like physical cleanliness, regular medical checkups, balance diet, maintaining the intervals between 2 children.
8. Diseases transmitted through direct sexual contacts are known as sexually transmitted diseases.
9. AIDS is non curable and infectious disease, prevention is only cure.
10. AIDS stands for Acquired Immune Deficiency Syndrome. AIDS is a serious condition that weakens the body's immune system, leaving it unable to fight off illness. AIDS is the last stage in a progression of diseases resulting from a viral infection known as the Human Immunodeficiency Virus (HIV or AIDS virus). The diseases include a number of unusual and severe infections, cancers and debilitating illnesses, resulting in severe weight loss or wasting away, and diseases affecting the brain and central nervous system resulting death.
11. Antibody tests check for HIV antibodies in blood or fluids from the mouth. Infected person is called as HIV positive.
12. HIV infection is caused by the human immunodeficiency virus. You can get HIV from contact with infected blood, semen, or vaginal fluids. Most people get the virus by having unprotected sex with someone who has HIV. Another common way of getting it is by sharing drug needles with someone who is infected with HIV. Mother can transmit HIV to her child during childbirth, pregnancy, and also through breastfeeding.
13. The virus cannot be transmitted from shaking hands, hugging, casual kissing, sneezing, touching unbroken skin, using the same toilet,

- sharing towels, sharing cutlery, mouth-to-mouth resuscitation, or other forms of “casual contact”.
14. AIDS can be prevented by safe sex, unshared needle, blade and syringe, avoid pregnancy and breast feeding by HIV positive mother, only checked blood should be used.
  15. If person is suffering from AIDS, should not infect other person and try to prevent self from diseases.
  16. Syphilis and Gonorrhea are transmitted respectively from *Treponema pallidum* and *Neisseria gonorrhoeae*.
  17. Syphilis and Gonorrhea can be treated in early stage.
  18. To prevent this disease decrease promiscuity, prostitution, increase in use of condoms, safe sexual practices and sex education in school and colleges

### Questions :

1. Choose the correct answer from the following questions :
  - (i) Nourishment and development of fetus occurs in which reproductive organ:-
    - (a) Ovum gland                      (b) Uterus
    - (c) Vagina                              (d) Ovary
  - (ii) Iron and folic acid tablet required for a pregnant lady in her pregnancy is:
    - (a) 75                                      (b) 100
    - (c) 150                                      (d) 200
  - (iii) AIDS is
    - (a) Communicable
    - (b) Non communicable
    - (c) Mental
    - (d) None of above
  - (iv) HIV transmitted from virus
    - (a) Hepatitis                              (b) AIDS
    - (c) Herpes                                      (d) Diarrhea
  - (v) HIV is transmitted from which reason
    - (a) Use of infected needle    (b) Coughing
    - (c) By air                                      (d) Eating food together

- (vi) Syphilis is transmitted through
  - (a) Trypanima par
  - (b) Nisera
  - (c) None of above
  - (d) All of above
2. Fill in the blanks :
  - (i) To maintain human species ..... is necessary
  - (ii) There should not be any problem, disease or ..... in male and female reproductive organs.
  - (iii) Main function of uterus is .....
  - (iv) Main function of ..... is to produce sperms.
  - (v) ..... develops when there is a cross between ova and sperm.
  - (vi) AIDS is resulting from a viral infection known as .....
  - (vii) HIV infected person can live normal life up to .....
  - (viii) National AIDS control society is working from .....
  - (ix) Females suffering from Gonorrhea secretes.... color fluid from urinary track.
3. What do you mean by reproductive health?
4. What points should be considered by male and females regarding reproductive health and why?
5. What is the difference between HIV and AIDS?
6. How HIV is transmitted? Write down the methods of prevention.
7. How will you control sexually transmitted diseases?

### Answers :

1. (i) b      (ii) b      (iii) a      (iv) b      (v) a      (vi) a
2. (i) reproductive system    (ii) Infection  
 (iii) Menarche      (iv) Testis      (v) Fetus  
 (vi) HIV                      (vii) 11 years      (viii) 1992  
 (ix) White