

Reproductive Health

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6.4. Reproductive Health

6.4.1 Introduction

- Reproduction serves to replace the older generation.
- It is also a phenomenon that leads to increase in the number of individuals of a species to ensure that at least some will survive in the struggle for existence.
- In humans, due to a variety of reasons more and more children have been surviving. This has currently led to what we call the **population explosion**.
- The increase in population has created many problems like problems of food, shelter, clothing, etc.
- So it has become very essential to limit the human population.
- There are various ways to prevent fertilization and hence to check the increase in population.

6.4.2 Definition

“The term Reproductive Health refers to healthy reproductive organs with normal functions.”

Or

“Reproductive Health is a total well being in physical, emotional, behavioural and social aspects of reproduction.”

Reproductive Health includes the emotional and social aspects of reproduction.

6.4.3 Reproductive Health- Problem and Strategies

- A reproductively healthy society is the society with people having physically and functionally normal reproductive organs and normal emotional and behavioural interactions among them in all sex-related aspects.
 - India is the first country to initiate action plans/programmes at the national level to attain total reproductive health; these programmes are called Family Planning and were initiated in 1957.
 - Later they have been improved to include more reproduction-related areas and are currently called as Reproductive and Child Health Care (RCH) programmes.
 - The major tasks of these programmes are-
 - Creating awareness among the people about various reproduction-related aspects
 - Providing facilities and support for building up a reproductively healthy society.
 - Governmental and non-governmental agencies have taken up various steps to create awareness among people about reproduction-related aspects; they help of audio-visual and print media.
 - Introduction of sex-education in schools should be encouraged to give right information and to avoid myths and misconceptions about sex-related aspects; proper information about reproductive organs, adolescence and the related changes, safe and hygienic sexual practices and sexually transmitted diseases (STDs) would help people to lead a reproductively healthy life.
 - Educating people, especially the fertile couples and those in marriageable age group, about the following can help them to make up a socially-conscious healthy family of desired size-
 - Available birth control options
 - Care of pregnant women
 - Postnatal care of the mother and child
 - Importance of breast feeding
 - Equal opportunities for the female and male child.
 - People should also be made aware of the problems due to uncontrolled population growth social evils like sex abuse and sex-related crimes, to enable them to think and take up necessary steps to prevent them from these evils and build up a reproductively healthy society.
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- Rapidly expanding human population, particularly in the developing countries like India has greater proportion of young individuals who determine the size, health and prosperity of the future population.
- These young individuals belong to different age group such as puberty, adolescent and early adulthood.
- Health and education of these young individuals (both males and females) as well as age of marriage and child bearing capacity of women are some crucial concerns for the overall reproductive health of the human population.
- Recent reports have revealed that-
 - Enrolments for secondary school education are still low in many countries and that too in case of girls.
 - Complications of pregnancy, childbirth and ultimately abortions are major reasons of females' deaths between 15 and 19 years of age.
 - The incidence of infection of sexually transmitted diseases is maximum in young individuals of 15-24 years of age.
- Keeping in view the above concerns, Government of India initiated number of programmes from time to time.
- In fact, India was the first country in the world to initiate action plans/programmes at national levels to attain total reproductive health as a social goal.
- Family planning was one such programme initiated in 1951 and was subsequently assessed periodically over the past decades.
- At present, much more improved programmes in reproduction related areas are in operation.
- These are popularly termed as Reproductive and Child Health Care (RCH) Programmes.
- RCH programmes have the following two major aims and objectives-
 - Creating awareness among the people about various reproduction related aspects.
 - Providing facilities and support for building up a reproductively healthy society.

6.4.3.1 Amniocentesis

- It is a prenatal diagnostic technique in which a sample of amniotic fluid from the womb of a pregnant woman, is taken during the early stages of foetal development and the cells are cultured and analyzed.
 - By this method the chromosomal abnormalities, the sex of the foetus and developmental disorders could be detected; it is misused for destroying the normal female fetuses.
 - **Uses of Amniocentesis**
 - Amniocentesis is a prenatal diagnostic technique to determine the genetic disorders, if any, of the foetus.
 - **Procedure of Amniocentesis**
 - The foetus bathes in the amniotic fluid that fills the amniotic cavity.
 - At an early stage of pregnancy (14th or 15th week), the location of the foetus and placenta is determined by sonography (use of high-frequency sound waves).
 - Then a small amount of amniotic fluid is drawn by passing a special surgical syringe needle through the abdominal wall and uterine wall into the amniotic sac containing amniotic fluid.
 - Cells that have sloughed from the foetus's skin or respiratory tract into the fluid are sucked into the syringe.
 - These cells can be examined for chromosomal abnormalities, such as Down's syndrome, Klinefelter's Syndrome, Turner's syndrome, resulting from non-disjunction during cell division.
 - The cells can also be cultured and in about a fortnight enough cells become available for test.
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- The cells and fluid are also tested for the metabolic disorders such as phenylketonuria, sickle-cell anaemia, etc.
- If it is confirmed that the child is likely to suffer from an incurable congenital defect, the parents will have a clinical justification for abortion.
- **Misuse of Amniocentesis**
- Unfortunately the useful technique of amniocentesis is being misused to kill the normal female foetuses as it can help detect the sex of foetus also.
- Some way out to end this malpractice must be found.
- Understanding of equality of sexes can help in this matter.
- Determination of sex by amniocentesis has been banned.

6.4.4 Population Explosion

- Increased health facilities and improvement in technology leading to better living conditions, have an explosive impact on the growth of population.
- The world population was about two billions in 1900 A.D. and it is 6 billion in 2000 A.D. As of 23 February 2010, the Earth's population is estimated by the United States Census Bureau to be 6,804,400,000.
- The same trend is observed in India also; our population at the time of independence was about 350 million and it has reached one billion in 2000 A.D. 1,065,070,607 (July 2004)
- The probable reasons are –
 - Decline in death rate
 - Decline in maternal Mortality Rate (MMR).
 - Decline in infant Mortality Rate (IMR).
 - Increase in the number of people in the reproductive age.
- According to 2001 census report, it is around 1.7 %, i.e., 17/1000/year and at this rate, the population is expected to double in 33 years.
- Imparting education to the people about various ways of fertility control is the most effective method of population control. Education helps to make people aware of the advantages of a small family and the disadvantages of a large family.

6.4.5 Birth Control

“The regulation of conception by preventive methods or devices to limit the number of offspring is called Birth control.”

6.4.5.1 Preventive methods

- These methods prevent the fusion of the egg and the sperm. Two important preventive methods are discussed below.
- **Vasectomy**
 - This is a method of sterilization in males. In this method, each vas deferens is cut and tied at both cut ends by a thread (ligature).
- **Tubectomy**
 - This is a method of sterilization in females.
 - In this method, the fallopian tube is cut and the two ends are tied to prevent passage of ova down the fallopian tubes.
 - Thus, in this method, the eggs continue to be released but do not reach the fallopian tube and no fertilization takes place.

6.4.5.2 Contraception methods

- These methods involve prevention of fertilization and conception. The main methods of contraception are given below:
- **Natural methods of contraception**
 - These methods include safe period, coitus interruptus and lactational amenorrhoea.
 - ❖ **Rhythm method of contraception**
 - In this method copulation is avoided for those days when the ovum is available for fertilisation. Thus, fertilization can be avoided.

- ❖ **Coitus interruptus**
 - In this method, the penis is withdrawn from the vagina prior to ejaculation.
- **Mechanical methods of contraception**
 - In this approach, various mechanical methods are used to prevent the passage of semen to the fallopian tube or to prevent implantation.
 - ❖ **Condoms**
 - It is a thin rubber tube worn over the penis before sexual intercourse.
 - The ejaculate gets collected in this tube and is not discharged into the vagina.
 - ❖ **Diaphragm**
 - It is fitted over the cervix in a woman's body by a doctor to prevent the entrance of sperms into the cervical canal.
 - ❖ **Intra uterine device (IUD)**
 - IUD or loop is made of plastic or stainless steel.
 - It is inserted in the uterus, which releases certain secretions that prevent the implantation of embryo in the uterine wall.
- **Chemical methods of contraception**
 - In this method, various chemicals are used to prevent fertilisation.
 - Foam, tablets, jellies, pastes and creams ,if introduced into the vagina before sexual intercourse, adhere to the mucous membrane and immobilize and kill the sperms.
 - These contain Spermicides such as lactic acid, citric acid, boric acid, potassium permanganate and zinc sulphate.
 - ❖ **Spermicides**
 - Strong spermicidal (sperm-killing) creams, jellies, etc. are applied in the vagina before copulation, which kill the sperms and prevent fertilization.
 - ❖ **Oral contraceptives or pills**
 - The oral contraceptives or pills are taken daily, which prevent ovulation in females.
 - These pills prevent ovulation but allow monthly shedding of the uterine lining through menstrual bleeding.

6.4.6 Medical Termination of Pregnancy (MTP)

- MTP methods are also known as if conceptive methods. There are applied if conception has taken place. Abortion and aspiration are two corrective methods in which pregnancy can be terminated by either mechanical method or by using hormones.

6.4.7 Sexually Transmitted Diseases (STDs)

"Diseases which spread through sexual contact are called sexually transmitted diseases (STD)."

- Sometimes microorganisms may infect areas around reproductive parts.
- During the act of sexual intercourse, these microorganisms may be easily transmitted from one person to another.
- Three important sexually transmitted diseases are:
 - Syphilis
 - Gonorrhoea
 - Acquired Immuno Deficiency Syndrome (AIDS)

Disease	Causative Agent
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Syphilis	<i>Treponema pallidum</i>
Gonorrhoeae	<i>Neisseria gonorrhoeae</i>
Chlamydiasis	<i>Chlamydia trachomatis</i>
Trichomoniasis	<i>Trichomonas vaginalis</i>
AIDS	Human Immuno-deficiency Virus(HIV)
Hepatitis-B	Hepatitis virus
Genital Herpes	Herpex simplex virus, Human papillona virus

6.4.7.1 Syphilis and Gonorrhoeae

- Both these diseases are caused by bacteria.
- Syphilis -*Treponema pallidum*
- Gonorrhoeae: *Neisseria gonorrhoeae*
- It spreads through sexual contact with the infected person.
- Incubation period of gonorrhea disease occur in about 2-5 days and that of syphilis are seen in 10-90 days.
- The common symptoms of these bacterial diseases are given below:
 - Fever and sores appear on the skin, in the throat and urinogenital areas especially vagina or penis, anus, rectum and mouth.
 - Break out of rashes on hands, feet and palms. iii) White patches in the mouth.
 - Acne-like warts in the groin area.
 - Hair fall occurs in patches from infected areas.
- Syphilis and Gonorrhoeae can be Prevented and cured by-
 - Having sexual intimacy with only one person.
 - Avoiding prostitution and homosexuality.
 - Taking appropriate medical treatment.

6.4.7.2 Acquired Immuno Deficiency Syndrome (AIDS)

"AIDS is caused by the **Human immunodeficiency virus (HIV)** once the virus enters the body it lives and grows in the body fluids and blood cells of the infected person."

- Mode of transmission of AIDS are-
 - HIV may be transmitted in the following ways.
 - Sexual contact with the affected person i.e. through semen or vaginal fluid.
 - Exposure to infected blood and blood products by using the same syringe already used by an infected person, and by use of infected blood during blood transfusion.
 - Organ transplant from an affected person to a healthy person.
 - During pregnancy, from an infected mother's blood to her baby's blood.
 - Incubation period of HIV virus is about 28 months (range 15–57 months).
 - Symptoms of AIDS are-
 - The person feels fatigued or tired, suffers from loss of weight and fever, and sweats profusely.
 - Persistent dry cough, oral rash and shortness of breath may be observed.
 - Headache, visual disturbance, vomiting and fits are also witnessed.
 - Gastro-intestinal problems like mild diarrhoea may occur.
 - Skin blotches, eczema, fungal infection and sometimes skin cancer may be observed.
 - Nervous system may be affected; the brain may be badly damaged leading to a loss of memory, and ability to speak and to think.
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- A completely infected AIDS patient may die within three years of infection.
- Prevention and control of HIV infection can be –
 - Avoiding multiple sex partners
 - Using a condom or other method of contraception
 - Avoiding prostitution and homosexuality
 - Screening of blood before transfusion
 - Treatment of all blood and other products used in transfusion to destroy the HIV
 - Avoiding sharing of injection needles
 - Avoiding pregnancy if the mother is HIV positive
 - Educating people

6.4.8 Infertility

- The reasons for infertility could be physical, congenital diseases, use of certain drugs, immunological reactions or even psychological.
- Specialised health care units called Infertility clinics could diagnose the problem and give corrective treatments for many of these problems.
- Where corrective treatments are not available, there are special techniques called Assisted Reproductive Technologies (ART) to help the couple produce children.

6.4.8.1 Test Tube Baby Programmes

- In this method, ova from the wife or a donor female and the sperms from the husband or a donor are allowed to fuse under simulated conditions in the laboratory; it is called in vitro fertilisation (IVF).
- The zygote or early embryo is transferred into the uterus or fallopian tube for further development; this process is called Embryo Transfer (ET) and can be done in the following ways-
 - The zygote or embryo upto eight blastomeres is transferred into the fallopian tube; it is called Zygote Intra Fallopian Transfer (ZIFT).
 - Embryos with more than eight blastomeres are transferred into the uterus; it is called Intra Uterine Transfer (IUT).

6.4.8.2 Gamete Intra Fallopian Transfer (GIFT)

- This method involves the transfer of an ovum collected from a donor female into another female, who cannot produce ova, but can provide suitable conditions for fertilisation and further development of the foetus upto parturition.

6.4.8.3 Intra Cytoplasmic Sperm Injection (ICSI)

- In this method, the sperm is directly injected into the ovum to form an embryo in the laboratory and then embryo transfer is carried out.

6.4.8.4 Artificial Insemination

- In this method, the semen collected from the husband or a healthy donor, is artificially introduced into the vagina or into the uterus (Intra Uterine Insemination).
- This method is used in cases where infertility is due to the inability of the male partner to inseminate the female or due to very low sperm counts in the ejaculates.

6.4.9 Points to Remember

- Reproductive health refers to as to a total well being in physical, emotional behavioural and social aspects of reproduction.
 - Our country was the first in the world to initiate various action plans/programmes at national level to attain total reproduction health as a social goal.
 - At present, improved programmes in reproduction-related areas, popularly named as Reproductive and child Health Care (RCH) programmes, are in operation.
 - The main aim of such programmes is to create awareness among people about reproductive organs, accessory organs of reproduction, secondary sexual characters, adolescence and associated changes, safe and hygienic sexual practices, sexually transmitted diseases (STDs), etc.
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- Knowledge about available birth control methods, care of pregnant mothers, post natal care of the mother and the child, importance of breast-feeding, equality of sex etc. among fertile couples and those in marriageable age group are other goals of RCH programmes.
 - Maternity and child Health and Family Planning- This programme of health centres-
 - Gives necessary information, guidance and help to the mothers before and after delivery so that they may properly look after themselves and the infants.
 - Also ensure safe delivery of infant and postnatal care
 - Also provides for immunization of infants and prophylaxis against anaemia and vitamin deficiency
 - Arranges milk-feeding programmes
 - Trains midwives also
 - Educates the newly wedded couples about the advantages of small family ,and guides and help them in having a small family.
 - To implement various action plans/programmes successfully for building up a reproductively healthy society, we must have strong infrastructural facilities, professional expertise and material support.
 - These are necessary to provide medical assistance and care to people during pregnancy, delivery, STDs, abortions, contraception, menstrual problems, infertility etc.
 - Our population is increasing at a very fast rate and has crossed a billionmark in 2000 A.D.
 - Such growth necessitated intense propagation of contraceptive methods to bring all the fertile couples under its cover.
 - Various birth control methods are available now. These are broadly classified as –
 - Temporary methods
 - Permanent methods
 - Medical termination of pregnancy (MTP) or induced abortions.
 - Temporary methods include
 - Natural methods- safe period, coitus interruptus, lactational amenorrhea.
 - Barrier methods – Spermicides ,condoms, diaphragms ,cervical cap ,vault etc. intrauterine devices
 - Physiological or oral contraceptives, injections and implants , abstinence etc.
 - Permanent methods include vasectomy in male and Tubectomy in female.
 - The surgical operations are minor and are usually performed under local anaesthesia.
 - Medical termination of pregnancy (MTP) or induced abortion is one of the most widely used methods of fertility control in the world.
 - Government of India legalized it in 1971 with some strict conditions to check indiscriminate and illegal female foeticides.
 - Sexually transmitted diseases (STDs) are the diseases or infections which are transmitted through sexual intercourse with infected persons.
 - Common STDs include AIDs, gonorrhoeae, syphilis, genital herpes, Chlamydiasis, genital warts, Trichomoniasis, hepatitis-B
 - A large number of couples are infertile, i.e. they are unable to produce children inspite of unprotected sexual cohabitation.
 - There can be many reasons of infertility in males and females.
 - Infertility disorders are diagnosed in infertility clinics and some of these can be cured through corrective treatment.
 - In cases wherein corrective treatment of infertility is not possible, couples are assisted to have children through special programmes commonly called Assisted Reproduction Technologies (ART),
 - Such programmes include –
 - Test Tube Baby Programme
 - Gamete Intra Fallopian Transfer (GIFT)
 - Intra Cytoplasmic Sperm Injection (ICSI)
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- Artificial Insemination Technique (AIT)
 - Woman plays a key role in the continuity of the family and the human species.
 - She should be treated at par with the males.
 - She is wrongly blamed for producing girls.
 - It is the male's sperm that determines the sex of the baby.
 - Chromosomal and metabolic disorders in a foetus can be found by examining the amniotic fluid drawn from the pregnant woman at an early stage.
 - This technique is called Amniocentesis.
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