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CONCEPT TUTORIALS



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Ch. 4

Reproductive Health

Health - According to W.H.O (World Health Organisation) health is a total well being in physical, emotional, behavioural and social aspects of reproduction.

Human Population Explosion - The high rate of human population growth at low interval of time is known as human population explosion.

Reasons for growth of human population :-

1. Decrease in death rate
 2. Control of diseases
 3. Advancement in agriculture
 4. Storage facilities
 5. Better transport
 6. Spread of education
 7. Protection from natural risks
- Problem caused due to overpopulation :-
- (A) Socio-economic problems :- limited food, space, unemployment, undereducation, poverty
- (B) Energy crisis :- increase demand for energy, fuel wood, fossil fuel (oil, gas and coal) & electricity
- (C) Ecological degradation :- Over population leads to :-
- (a) Pollution (b) Soil erosion (c) Deforestation

Population Control

Planned control of population :-

- 1) Education
- 2) Increasing marriageable age
- 3) Family Planning

Q:- Is sex education necessary in schools? why?
Ans: yes, Introduction of sex education in schools is necessary to send right information to the young

grounds about reproductive organs, safe and hygienic sexual practices, STDs etc. This information helps them to lead a reproductively healthy life later.

Q(2)

Ans: Is the use of contraceptive methods justified? Population in India is increasing at a very fast rate. Such a growth necessitated various propagation and use of contraceptive methods to bring all the fertile couples under its cover. It will help in bring birth rate down and reduce population growth.

Q(3)

Ans: Removal of gonads can not be considered as contraceptive option why?

Removal of gonads surgically is a irreversible process. It will lead to infertility and both male and female will be dependent on hormones in their remaining life to regulate functioning of many reproductive organs.

Q(4)

Ans: The regulation of conception by preventive methods or devices to limit the number of offspring is called birth control. These methods are also known as contraceptives.

Q(5)

Ans: Types of Contraceptives and birth control are of three types :-

1) Temporary Method

2) Permanent Method

3) MTP (Medical Termination of Pregnancy)

Temporary Methods :- These are further of many types :-

1) Barrier Method

2) Hormonal Method

3) Intrauterine Device (IUD)

4) Natural Family Planning

5) Sterilization

6) Withdrawal Method

7) Coitus Interruptus

8) Lactational Amenorrhea

9) Rhythm Method

10) Calendar Method

11) Cervical Mucus Method

12) Basal Body Temperature Method

13) Symptothermal Method

14) Coitus Interruptus

Natural Methods - These include:

- (1) Safe Periodic Method - A safe before and after a week after periods are considered as safe period for sexual intercourse.
- (2) Lactational Amenorrhoea - It involves withdrawal of the breast from the infant by the male before sexual intercourse. In this method, no sperm is deposited in the vagina and there is no fertilization. Ovulation and menstruation do not occur during the period of infant lactation.
- (3) Barrier Methods - In this method, sperm and eggs are prevented from coming close with the help of barrier.
- (4) Barrier Methods are of two types:-
 - (i) Chemical Method - This includes foam tablets, pills, foams and creams. These are used in vagina after sexual intercourse, as they kill the sperm.
 - (ii) Mechanical Method - There are of 3 types
 - (1) Condom - These are available for use for both male and female. This is cheap and easily available. These condoms are disposable.
 - (2) Diaphragm, Cervical Caps and Vaginal Vault - These are dome shaped and used by females. These are used in the cervix. These devices prevent the entry of sperm through cervix.
 - (3) Intrauterine devices (IUD's) - These are plastic or metal devices placed in the uterus of female with by doctor. Different types of IUD's are present available now a days. These are of non-medicated IUD's and Copper releasing IUD's.
 - (4) Hormone releasing IUD's

These IUD's suppress mobility of sperm as well as their ability of capacitating towards releasing sperm during copulation.

Physiological Devices - These are also known as Coil Contraceptive Pills. These pills check ovulation in female by releasing the secretion of FSH and LH. So, no egg is released in women and there is no fertilization.

Types of Coil Contraceptive Pills -
 Male pills, Combined pill, emergency contraceptive pills, Satchi, male 2 etc.

(d) Injection and implants - These are used by female. They prevent pregnancy for 3-4 years. These blocks ovulation and prevents sperm mobility. These methods are safe, effective and long lasting.

Permanent Methods:-

Vasectomy :- It involves the removal of a short segment of each vas deferens in male.

Tubectomy :- It involves the removal of a short segment of fallopian tube in female.

These are permanent methods.

MTP - Medical Termination of Pregnancy :-

Intentional or voluntary discontinuation of pregnancy before the fetus becomes viable is called medical Termination of pregnancy.

MTP is done :- (1) causal imperfect of intercourse

(2) Failure of the contraceptive using

(3) Rapes

MTPs are considered safe during first trimester of

Pregnancy. Much more riskier in second trimester of pregnancy.

Significance of MTPs :- 1. It helps in getting rid of unwanted pregnancies.

2. These also help in getting rid of such pregnancies which may be harmful.

3. MTPs also contribute in decreasing the human population.

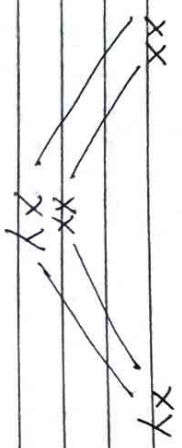
Inequality between Sexes

Drawbacks of MTPs :- It is being misused to abort the normal female foetuses. It is unsafe and results in the death of mother.

Human female has similar sex chromosomes i.e. XX and human male has two dissimilar sex chromosomes i.e. XY. The sex of the child is determined by the type of sperm that fertilises the egg.

If X chromosome (sperm) fuses with egg, it will produce girl (XX) and if Y chromosome (sperm) fuses with egg it will produce boy (XY).

Parents - Female (XX) Males (XY)



Children XX → Daughter

XY → Son

SEXUALLY TRANSMITTED DISEASES (STDs)

Diseases or infections which are transmitted through sexual intercourse with infected persons are called Sexually Transmitted Diseases or Venereal diseases or reproductive tract infections (RTI).

Examples :- AIDS, gonorrhoea, syphilis, genital herpes, genital warts, hepatitis-B, etc.

Caustative Agents :- bacteria, viruses, protozoa, Nematodes, Fungi, Ectoparasites.

Modes of Transmission :-

1. Sexual intercourse with infected person.
2. Sharing of injection needles, surgical instruments etc with infected persons.
3. Transfusion of blood.
4. Transfusion of organ of infected person.
5. Transmitted from infected mother to foetus.

Prevention :- 1. Must avoid sex with unknown person / multiple persons.

2. Always use condoms during intercourse.
3. One must consult a qualified doctor, if there is any doubt.

Infertility

When the couples are unable to produce children despite of unprotected sexual cohabitation. Such a phenomenon is termed Infertility.

Reasons :- 1) The sperm count may be less.

- 2) There is cyst in fallopian tube of female.
 - 3) Female is unable to produce egg.
 - 4) Due to ~~egg~~ use of any drugs.
- Assist. Assisted Reproduction Technologies (ART)
1. Test tube baby program
 2. Gamete intra fallopian transfer (GIFT)
 3. Intra cytoplasmic sperm injection (ICSI)
 4. Artificial insemination technique (AIT)

Test tube baby :- This method involves in vitro fertilization (IVF) i.e. fertilization of sperm and egg outside the body.

If the zygote or early embryo is then transferred into the fallopian tube. It is known as Zygote intra fallopian tube (ZIFT).
If embryo is transferred into the uterus it is known as Intra uterine transfer or IUT.
The further development takes place inside the uterus of mother.

GIFT :- (Gamete Intra Fallopian Transfer) :- This method is used in females who cannot produce one but can provide suitable environment for fertilization. In such cases, ovum from the donor female is surgically removed and introduced into fallopian tube of such females.

Intra cytoplasmic Sperm Injection (ICSI) :- This is technique to join an embryo in the laboratory in which a sperm is directly injected into the ovum placed in a nutrient broth. The zygote or early embryo is transferred by ZIFT in woman.

Artificial Insemination of Technique (AIT) :-

This technique is used in those females where the husband either is unable to inseminate the female or has very low sperm counts in the ejaculate. In such cases, the semen of the husband/donor male is first collected and then is artificially introduced either into the vagina or into the uterus of the female.

AIH -> Artificial Insemination of Husband
AID -> Artificial Insemination of Donor.

Surrogate Mother :- A woman who substitutes or takes the place of the real mother to nurse the embryo is called Surrogate mother.

A developing embryo can be inserted in the uterus of another female, provides her hormones are in the proper phase of reproductive cycle for implantation to occur.

AMNIOCENTESIS :- Transabdominal aspiration of fluid from the amniotic sac of the foetus is called amniocentesis.

Use :- Amniocentesis is a prenatal diagnostic technique to determine the genetic disorders, if any, and sex of the foetus.

Procedure :- 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 of the foetus are sucked into the syringe. These cells can be examined for chromosomal

abnormalities like Down's syndrome, Turner's syndrome, sickle cell anaemia etc.

Misuse of Amniocentesis :- This technique is being misused to kill the normal female foetus as it can help detect the sex of foetus also.

Very short Questions

(1) Q:- Diseases which are transmitted through sexual intercourse are referred as ?

Ans: Sexually Transmitted Diseases.

(2) Q:- Inability to conceive or produce child even after two years of unprotected sexual cohabitation is medically termed as ?

Ans: Infertility.

(3) Q:- Transfer of an embryo into female genital tract after in vitro fertilisation leads to the development of a test tube baby.

(4) Q:- The tablet form of contraceptive methods adopted by female contains Progesterone or combinations of Progesterone and estrogen.

(5) Q:- A device inserted into the uterus through vagina to avoid pregnancy is called -

Ans: Intra uterine Device.

(6) Q:- List two most common STDs

Ans: AIDS and gonorrhoea.

(7) Q:- Name the organisation that produced 'Saheli' pill

Ans: Central Drug Research Institute (CDRI) Lucknow.

(8) Q:- Name any copper releasing IUD

Ans: Copper-T

(9) Q:- Name one hormone releasing IUD

Ans: Progestant

(10) Q:- Does the production of test tube babies involve the human race ?

Ans: No, it is a sexual reproduction which involves genetic variation.

(11) Q:- Name any natural method of birth control

Ans: Coitus interruptus, Lactational Amenorrhoea.

Differences

Vasectomy

It is a surgical method to sterilise a male

Tubectomy

It is a surgical method to sterilise a female

Small part of vas deferens is either cut or removed

Small part of fallopian tube is removed or tied up

Gamete Intra Fallopian Transfer (GIFT)

Zygote Intra Fallopian Transfer (ZIFT)

Transfer of ovum collected from donor female into the fallopian tube of receiver female

The zygote or early embryo's are transferred into the fallopian tube of a female

Multiple eggs collected from the ovaries are used.

Eggs are stimulated and collected using in vitro fertilisation.