

NCERT Solutions for Class-XII Biology

Chapter -3

NCERT Biology Class 12

1. What do you think is the significance of reproductive health in a society?
1. Reproductive health is the total well-being in all aspects of reproduction. It includes physical, emotional, behavioural, and social well-being. Sexually transmitted diseases such as AIDS, gonorrhoea, etc. are transferred from one individual to another through sexual contact. It can also lead to unwanted pregnancies. Hence, it is necessary to create awareness among people, especially the youth, regarding various reproduction related aspects as the young individuals are the future of the country and they are most susceptible of acquiring sexually transmitted diseases. Creating awareness about the available birth control methods, sexually transmitted diseases and their preventive measures, and gender equality will help in bringing up a socially conscious healthy family. Spreading awareness regarding uncontrolled population growth and social evils among young individuals will help in building up a reproductively healthy society.
2. Suggest the aspects of reproductive health which need to be given special attention in the present scenario.
2. Aspects of reproductive health which requires special attention are:
 - Providing strong infrastructural facilities, professional expertise, material support, medical assistance and care to people in reproduction-related problems like pregnancy, delivery, STDs, abortions, contraception, menstrual problems, infertility, etc.
 - Implementation of better techniques and developing new strategies from time to time are required to provide more efficient care and assistance to people.
 - Research should be encouraged on reproduction-related areas and get supported by governmental and non-governmental agencies to find out new methods and/or to improve upon the existing ones.
3. Is sex education necessary in schools? Why?
3. Introduction of sex education is important in schools and it is necessary to provide students correct information regarding reproductive organs, adolescence and related changes, safe and hygienic sexual practices, sexually transmitted diseases etc.. to prevent young people from believing in myths and misconceptions about sex-related issues and for building a future society that is reproductively healthy.
 - Parents, other close relatives, teachers and friends, also play a major role in giving information to the young students.

4. Do you think that reproductive health in our country has improved in the past 50 years? If yes, mention some such areas of improvement.
4. Yes, the reproductive health has tremendously improved in India in the last 50 years. The areas of improvement are as follows.
- Massive child immunization programme, which has led to a decrease in the infant mortality rate
 - Maternal and infant mortality rate, which has been decreased drastically due to better post natal care
 - Family planning, which has motivated people to have smaller families
 - Use of contraceptive, which has resulted in a decrease in the rate of sexually transmitted diseases and unwanted pregnancies
5. What are the suggested reasons for population explosion?
5. There are several reasons that have caused population explosion:
- Development in various field have improved the quality of life significantly in the last century. Especially, increased health facilities such as vaccination and better living conditions has led to population explosion.
 - Decreased in maternal mortality rate and infant mortality rate and increase in the number of people in reproductive age have led to increased population.
 - The death rate has decreased and birth rate has increased in past 50 years due to better health facilities, food supply and other advancements
6. Is the use of contraceptives justified? Give reasons.
6. Yes, the use of contraceptives is absolutely justified. The human population is increasing tremendously. Therefore, to regulate the population growth by regulating reproduction has become a necessary demand in the present times. Various contraceptive devices have been devised to reduce unwanted pregnancies, which help in bringing down the increased birth rate and hence, in checking population explosion.
7. Removal of gonads cannot be considered as a contraceptive option. Why?
7. Removal of gonads can not be reversed. The sex hormones are produced by gonads which are necessary for accessory sex organs and certain functions. Sexual life of the person is affected after removal of gonads. A contraceptive should be user friendly, reversible and available. Hence, removal of gonads cannot be considered as a contraceptive option.
8. Amniocentesis for sex determination is banned in our country. Is this ban necessary? Comment.
8. Amniocentesis is a pre-natal diagnostic technique that is used to determine the sex and metabolic disorders of the developing foetus in the mother's uterus through the

observation of the chromosomal patterns. This method was developed so as to determine any kind of genetic disorder present in the foetus. However, unfortunately, this technique is being misused to detect the sex of the child before birth and the female foetus is then aborted. Thus, to prevent the increasing female foeticides, it is necessary to ban the usage of amniocentesis technique for determining the sex of a child.

9. Suggest some methods to assist infertile couples to have children.
9. In cases of infertile couples where correction of problems are possible, assisted reproductive technologies can be used to help them have children.

In vitro fertilisation (IVF)

It is a fertilization method outside the body in almost similar conditions as that in the body which is followed by embryo transfer (ET) is one such method. This method, popularly known as test tube baby program, 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. The zygote or early embryos (upto 8 blastomeres) could then be transferred into the fallopian tube (ZIFT–zygote intra fallopian transfer) and embryos with more than 8 blastomeres, into the uterus (IUT – intra uterine transfer), to complete its further development. Embryos formed by in-vivo fertilisation (fusion of gametes within the female) also could be used for such transfer to assist those females who cannot conceive.

GIFT – gamete intra fallopian transfer

It is transfer of ova on one female to another female who cannot produce one, but can provide suitable environment for fertilisation and further development is another method attempted.

Intra cytoplasmic sperm injection (ICSI)

It is another specialised procedure to form an embryo in the laboratory in which a sperm is directly injected into the ovum. →Infertility cases either 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.

10. What are the measures one has to take to prevent from contracting STDs?
10. Sexually transmitted diseases (STDs) get transferred from one individual to the other through sexual contact. Adolescents and young adults are at the greatest risk of acquiring these sexually transmitted diseases. Hence, creating awareness among the adolescents regarding its after-effects can prevent them from contracting STDs. The use of contraceptives, such as condoms, etc. while intercourse, can prevent the transfer of these diseases. Also, sex with unknown partners or multiple partners should be avoided as they

may have such diseases. Specialists should be consulted immediately in case of doubt so as to assure early detection and cure of the disease.

11. State True/False with explanation

- (a) Abortions could happen spontaneously too. (True/False)
- (b) Infertility is defined as the inability to produce a viable offspring and is always due to abnormalities/defects in the female partner. (True/False)
- (c) Complete lactation could help as a natural method of contraception. (True/False)
- (d) Creating awareness about sex related aspects is an effective method to improve reproductive health of the people. (True/False)

11. (a) True

(b) False

Infertility is defined as the inability of the couple to produce baby even after unprotected coitus. It might occur due to abnormalities/defects in either male or female or both.

(c) False

Complete lactation or lactational amenorrhea is a natural method of contraception. However, it is limited till lactation period, which continues till six months after parturition.

(d) True

12. Correct the following statements:

- (a) Surgical methods of contraception prevent gamete formation.
- (b) All sexually transmitted diseases are completely curable.
- (c) Oral pills are very popular contraceptives among the rural women.
- (d) In E. T. techniques, embryos are always transferred into the uterus.

12. (a) Surgical methods help prevention of flow of gametes during intercourse.

(b) Not all sexually transmitted diseases are curable

(c) Oral pills are very popular contraceptives among the urban women.

(d) In E.T. technique, 8 celled embryos are transferred into the fallopian tube while more than 8 celled embryos are transferred into the uterus.



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