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Diploma in Pharmacy 1st Year
Social Pharmacy
Important Questions
Chapter 2 : Preventive Healthcare

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Chapter 2

Preventive Healthcare

IMPORTANT Questions

Q1. Discuss the Water pollution

Air pollution

Noise Pollution

Ans.

Water Pollution

According to United States Public Health Services

“Water pollution means the presence of any toxic substance in water that degrades the quality to constitute a hazard or impair its usefulness”.

Causes of Water Pollution

- Domestic Sources
- Industrial Sources
- Mine Drainage Water
- Rural and Agricultural Factors

Water-Borne Diseases

- ☐ Diarrhoeal Diseases
- ☐ Cholera
- ☐ Giardiasis
- ☐ Amoebiasis

Control Measures for Water Pollution

- **Industrial Effort** : A number of legislations have been formed that force the industries to make efforts towards cleaning the waste generated by them or developing an efficient system for waste disposal.
- **Transportation** : Society can significantly reduce vehicular pollution by switching to hybrid and electric vehicles
- **Farming Solutions** : In farming, switching to organic farming methods can significantly reduce the adverse impact of agricultural operations on the water bodies
- **Waste Disposal** : Proper disposal of waste can significantly reduce the water pollution in the environment
- **Groundwater Contamination Controls** : Controlling the ground water from being polluted is one of the effective method for reducing water pollution

Air Pollution

According to World Health Organisation, "Air pollution is defined as, substances put into air by the activity of mankind into concentration sufficient to cause harmful effect to his health, vegetables, property or to interfere with the enjoyment of his property"

Air Pollutants

- **Carbon Monoxide (CO)**
- **Nitrogen Oxides (NO_x)**

Causes of Air Pollution

- **Anthropogenic Causes (Human Activity):** Such activities involve different kinds of fuel burning
- **Stationary Sources**
- **Mobile Sources**
- **Chemicals, Dust and Controlled Burn Practices**
- **Fumes**

Effects of Air Pollution on Human Health

- **Respiratory Problems**
- **Cardiovascular Problems**
- **Nervous System Problems**
- **Urinary Problems**

Preventive Measures of Air Pollution

- ✓ **Smart Driving Practice**
- ✓ **Select Air Friendly Product**
- ✓ **Prevent Indoor Pollution**
- ✓ **Support Clean Air Programmes**
- ✓ **Reduction at source by using Control Equipment**

Noise Pollution

The unwanted sound dumped into the atmosphere leading to health hazards is known as noise pollution.

or

It is also defined as "wrong sound, in the wrong place at the Wrong time".

Sources of Noise Pollution

- ❑ **Transport Noise**
- ❑ **Road Traffic Noise :** Noise emerging from road traffic such as road vehicles, high traffic speed, gear box, exhaust system, vibrations, etc.,.
- ❑ **Rail Traffic Noise:** Noise emerging from rail traffic such as use of welded tracks, engines horns, coach suspensions, braking systems, etc.,
- ❑ **Aircraft Noise :** This Include high noise produced by large and fast aircrafts while taking- off, during flight and while landing
- ❑ **Industrial Noise :** Heavy Machineries and mechanisms used by different factories, mills and industries produce high amount of noise which causes noise pollution.
- ❑ **Neighbourhood Noise:** Such noises include loud TV, radio sets, music, fireworks parties, playing of children, barking of dogs, etc

Effects of Noise Pollution

1. Deafness
2. Non-Auditory Effects

Control Measures of Noise Pollution

- **Control of Noise at Source:** This can be done by setting the noise producing machines at isolated areas, by applying mufflers and other Noise reducing equipment to machines.
- **Control of Noise Transmission:** This can be done by building enclosures and by covering the walls of the rooms with sound absorbing material.
- **Protection of Exposed Persons:** All the workers exposed on continuous noise louder than 85dB in the frequency bands above 150Hz require hearing protection.
- **Education:** The importance of noise as a health hazard should be educated to the public through mass communication media.

Q2. Describe family planning. Write Contraceptive Methods.

Ans. Family Planning

An expert committee of the WHO defined family Planning in 1971 as

“A way of thinking and living adopted voluntarily on the basis of knowledge, Attitude, and responsible decision by individual and couples in order to promote health and welfare of the family group and thus contribute effectively to the social development of a country”

Objective

- I. To avoid unwanted birth,
- II. To bring about wanted birth,
- III. To regulate the intervals between each pregnancy,
- IV. To control the time at which birth occur in relation to the parents age
- V. To determine the no of children in a family

There are many method through which unwanted pregnancy can avoid

Contraceptive method

- Many scientifically tested and reliable contraception method are available which helps a couple to avoid unwanted pregnancies.
- A gynaecologist should be consulted with before adopting some of there

Family Planning method

The family Planning or contraceptive method prevent the sperm to fuse with the ova released and thus avoid pregnancy

The various birth control method available at present are

- ┆ Behavioural method
- ┆ Natural method
- ┆ Chemical method
- ┆ Mechanical method
- ┆ Hormonal contraceptives method
- ┆ Terminal method

1. Behavioural method

- **Coitus interruptus** : This is the oldest method of voluntary fertility control in which the male withdraw before ejaculation This prevent semen deposition into the vagina.
- **Safe period or calendar method** : In this the couples should avoid intercourse during the period This method however is not reliable because a woman's menstrual cycle may vary only educated and responsible couples can use this method effectively.

2. Natural family planning method

- Is a form of birth control that doesn't involves pills or device As a result it doesn't have side effects with this method you track your fertility
- Which is when you are most likely to get pregnant
- The ovaries release an egg at about the same time each month that'sc called ovulation The egg moves through the fallopian tube towards the uterus An unfertilised egg can live up to 24 hours
- Fertility happen for about 6 days each month 5 before ovulation and the day of ovulation

3. Chemical method

Chemical method utilise chemical contraceptive in which a base with incorporated spermicide is present Surface active agents are the commonly used spermicide there agents on coming in contact with the sperm deposited in the vagina during intercourse inhibit their ability of oxygen uptake and kill them The spermicides should be introduced in the vagina 15 mm before the intercourse

The chemical method of family planning involves the use of

1.Foam tablets :

2.Spermicidal jellies / creams / pastes

4. Mechanical method

- There are many devices available which can be suitably used by both men and women
- This method aim to prevent the meeting of sperm with the ovum
- These methods do not produce any side effects provide protect against sexually transmitted disease and also protect from the risk of cervical cancer due to this reason the mechanical method of contraception are popular

❖ **Candom or Nirodh** : It is a very thin rubber sheath used by the male

The Indian government has introduced three brands of Nirodh

Dry Nirodh

Deluxe Nirodh a lubricanted candom

Super Deluxe Nirodh

5. Hormonal contraceptives

Hormonal contraceptives are the most effective contraception method pregnancy can be 100% preventer by using the combined oral contraceptives pills COCPs

- **Oestrogen – progestin combination combined oral contraceptives pills**
 - It is the most successful contraception method

- Most of the currently available formulation of combined pills contain a synthetic oestrogen 30-35 ug and a progesterone 0.5-1.0 mg
- The pill is orally administered for 21 days, starting from the 5 day of menstrual cycle followed by a break of 7 days of menstrual cycle
- The pills should not be prescribed if the woman is
- Already pregnant
- More than 35 years

6. Terminal method

- ♣ The contraception method discussed above are used for delaying the pregnancy or for maintaining a gap between two child birth but the terminal method are used after the family is complete and the couples wants to end the need for contraceptive or other method
- ♣ The following sterilisation operation method of either the male or female provide permanent protection against pregnancy

❖ Vasectomy

- It is performed for the males and is a very simple outpatient surgical procedure of around 20 min
- In this method small cut is made above the men's scrotum on both the side to remove a small portion of the vas deferens
- The cut are tied up
- Vasectomy does not have any effect on the strength or virility of the male
- He ejaculates semen which doesn't contain sperm

❖ Tubectomy

- It is performed for the females after which they have to remain hospitalised for 2-3 days and also take rest for a few days
- In this method a small piece of each fallopian tube is removed and the cut ends are tied up to block the passage of ovum
- As the result the released ova and the sperm will not meet during the intercourse and thus no pregnancy

Role of pharmacist in family Planning

- ☐ Exhibiting family Planning posters in hospital and drug store
- ☐ Counselling people about the importance of family planning, gap years between two children etc
- ☐ Educating about oral contraceptives
- ☐ Conducting education programmes that focus on the issue of high population
- ☐ Convincing the people about the advantages of having small families
- ☐ Advertising programmes
- ☐ Giving explanation on the techniques and usage method
- ☐ Providing social facilities
- ☐ Organising discussion and seminars

Q3. Explain the immunity along with Classification.

Ans

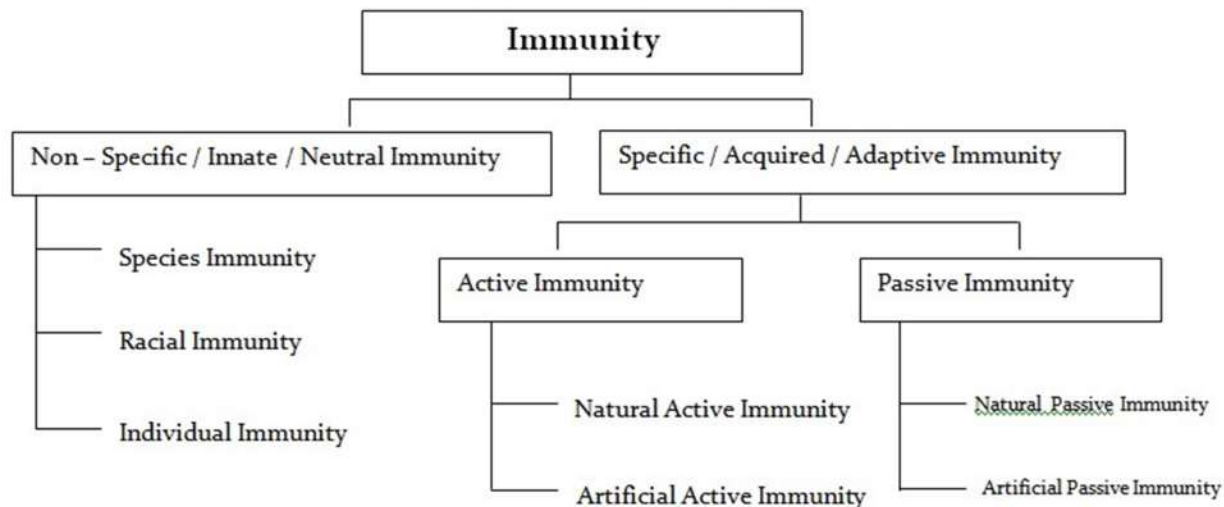
IMMUNITY

The word immunity (*Latin* immunis meaning *exempt*) describes the protection against diseases.

It indicates that an individual has developed lifelong resistance to a certain disease after being infected with it only once.

Types of Immunity

- Non-specific/innate/neutral immunity,
- Specific/acquired/adaptive immunity.



Non-Specific/Innate/Neutral Immunity

- This type of immunity is present in an individual since birth, and is affected by the genetic and molecular structure of the genes and is independent of previous contact with foreign antigen molecules.
- It may be non-specific when there is resistance to infections in general or may be specific when resistance to a particular pathogen is involved.

Species Immunity

This type of immunity is found in all the members of a particular species, such as many microbes are pathogenic to humans but does not infect animals, e.g., B. Anthracis infects humans but not chickens.

Individual Immunity

An individual immunity when the body has been exposed to the diseases through either vaccination once exposed your immunity system generate antibodies. So that the diseases can't affect you the second time

Specific/Acquired/Adaptive Immunity

This type of immunity is the set of responses which the immune system activates to target specific pathogens. It is also known as acquired immunity since the resistance is acquired by an individual during life.

1. Active Immunity

This type of immunity is the resistance acquired or developed by an individual after effective contact with an antigen. This contact may be in the form of either natural infection or by vaccination.

Active immunity is of two types:

- **Natural Active Immunity:** Is the antibody protection your body creates against a germ once you are been infected with it

For example, individuals recovering from chickenpox infection acquire natural active immunity against it

- **Artificial Active Immunity:** It is protection produced by intentional exposure of a person to antigen in a vaccine

2. Passive Immunity

This type of immunity is introduced in an individual by preformed antibodies (usually in the form of antiserum) against infective agents or toxins

Passive immunity is effective for a very short duration but it is important when immediate immune response is required

e.g., anti-venom is used in cases of snake bites.

Passive immunity is of two types

- **Natural Passive Immunity:** This is seen when antibodies are transferred from mother to the foetus (by placenta or milk) to protect it till its own immune system develops to function.
- **Artificial Passive Immunity:** These chemicals or agents are introduced in the body through parenteral route.

Q4. Write a detail note on Mother & Child health.

Ans.

Mother and child health

- WHO defined maternal health as the health of women during pregnancy, child birth, and postnatal period
- Maternal health comprises of the absence of maternal morbidity, maternal morbidity refers to health situation that complicate pregnancy and childbirth or puts a bad influence on a woman's health and wellbeing

Paediatrics / Child health

The word paediatrics has been derived from the Greek word

Paedia meaning **child**

Iatri meaning **treatment**

Ics meaning **branch of science**

- Paediatrics is the branch of medical science that deals with child development and care and with the disease of childhood and their treatment
- Paediatrics also refer to the complete and continued care of children, in wellness as well as illness
- Abraham Jacob 1830-1919 is the father of paediatrics

Maternal and child health programmes

- According to WHO 1976 maternal and child health MCH

- Service is defined as promoting, preventing, therapeutic or rehabilitation facility or care for the mother and child
- Thus maternal and child health service is an important and essential services related to mother and child overall development

Objectives of Material and Child Health Programme

- The ultimate objective is to provide life-long health.
- To reduce maternal, perinatal, infant and child mortality and morbidity.
- To promote reproductive health.
- To promote physical and psychological development of the child and adolescent within the family.
- To reduce child death and infant mortality rate
- To provide complete protection of child.

Q5. Explain the Initiation of Breastfeeding in detail

Ans.

Breastfeeding is when you feed your baby breast milk, usually directly from your breast.

- **Initiation of Breastfeeding**

Breast-feeding should be initiated within 30 minutes of child birth in case of normal delivery and within 4 hours in case of C-section. The mother should breast feed the child up to 2 years or more if the baby wishes

Importance of Breastfeeding

- Breastfeeding is beneficial for the infants as well as for the mothers.

Advantages to the Baby

- ✓ It contains the nutrients required by an infant in the first 6 months.
- ✓ The most suitable protein and fat.
- ✓ More lactose than other milks.
- ✓ Sufficient vitamins.
- ✓ It gets easily digested and assimilated.
- ✓ It contains no microbes that may cause diseases

Advantages to the Mother

- ✓ It reduces the possibility of breast, uterine and ovarian, cancers.
- ✓ It protects the mother against osteoporosis and UTI s
- ✓ It helps the mother to loose additional fat that accumulates during pregnancy; thereby, helping her to restore the pre-pregnancy body shape, along with some post-pregnancy exercises.
- ✓ It saves time, effort, and money when compared to formula feeding.

Q6. Write the Effects of Infant milk substitutes and bottle feeding.

Ans.

Effects of Infant Milk Substitutes and Bottle Feeding

Bottle feeding is an alternative method for breastfeeding, which is used by mothers who cannot breastfeed or want to give formula milk along with breast milk. Sometimes breast milk is also given through bottles.

Procedure

- ➡ Firstly, the (teat) and bottle should be cleansed, sterilised, and kept covered.

- Formula milk should be prepared as required, i.e., when the baby is hungry.
- The flow and temperature of milk should be checked by sprinkling some drops on inner side of wrist.
- The mother should sit comfortably and keep the baby on her lap with his/her head higher than the rest of the body.
- The teat should be put on the corner of baby's mouth and inserted when he/she opens mouth.
- The bottle should be kept at such an angle that the teat remains completely filled with milk, without any air
- The mother should make the baby/burp during and after the feeds.
- After burping, the mother should keep the baby in right lateral position.

Advantages

- ✓ Formula milk is given less frequently as it is difficult to digest.
- ✓ Exact quantity of milk consumed by the baby can be measured easily.
- ✓ Bottle feeding can be done by any family member, i.e., presence of mother is not necessary when the baby is being fed with a bottle.

Effects

- ✗ Lack of Antibodies:
- ✗ Less Bonding between Mother and Child
- ✗ Cleaning Issues:
- ✗ Expensive Method
- ✗ Difficult to Digest
- ✗ Less Nutritional

Formula feeding puts the baby at risk

Examples

- ☐ Illness and Hospitalisation
- ☐ Diarrhoea
- ☐ Ear Infections
- ☐ Lung Infections
- ☐ Other Infections

Q7. What is the Demography Cycle Explain in Detail.

Ans.

Demography

The study of human population their composition, distribution and size, and cause and consequences of any changes in there characteristics is termed demography

Or

It can also be defined as the statistical study of population which involves studing the structure, size, and distribution of population

- Demography is a branch of economic or sociology

Demography is scientific study of human population

Demography include

- ❖ Population distribution in space
- ❖ Change in population size
- ❖ Population composition

Four demography process

- Fertility
- Mortality
- Marriage
- social mobility

Demography cycle

- ♣ The demography cycle is followed throughout the world. The stage of demography cycle under go variation in different countries based on their population growth and industrialization
- ♣ After studying the statistical population growth data of various countries it has been concluded that the demography cycle comprises of five stage of population growth

Stage of demography cycle

- **First stage High stationary stage :** High birth and high deaths rates are the characteristics feature of this stage. The birth and death rates act with respect to each other in a specific position so that the population remain stable.
- **Second stage Early Expanding stage :** Declining death and constant birth rate are the characteristics feature of this stage.
- **Third stage Late expanding stage :** Further declining death and falling birth rate are the characteristics feature of the stage. The population grows continuously during this stage because the no of birth exceeds the death.
- **Fourth stage Low stationary stage :** Low birth and low death rates are the characteristics feature of this stage thus the overall population remain constant.
- **Fifth stage Declining stage :** Low birth rate than a death rates is the characteristics feature of this stage the population starts declining.