

HEALTH EDUCATION

Bachelor of Physical Education (B.P.Ed.)
Course Material for Students circulation

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YMCA COLLEGE OF PHYSICAL EDUCATION

Unit I: Health Education

- Concept, Dimensions, Spectrum and Determinants of Health
- Definition of Health, Health Education, Health Instruction, Health Supervision
- Aim, objective and Principles of Health Education
- Health Service and guidance instruction in personal hygiene

Unit II: Health Problems in India

- Communicable and Non Communicable Diseases, Diabetes and its prevention
- Obesity, Malnutrition, Adulteration in food, Environmental sanitation, Explosive Population, Personal and Environmental Hygiene for schools
- Objective of school health service, Role of health education in schools
- Health Services Care of skin, Nails, Eye health service, Nutritional service, Health appraisal, Health record, Healthful school environment, first- aid and emergency care etc.

Unit III: Environmental Science

- Definition, Scope, Need and Importance of environmental studies.
- Concept of environmental education, Historical background of environmental education.
- Celebration of various days in relation with environment.
- Role of school in environmental conservation and sustainable development.

Unit IV: Natural Resources

- Water resources, food resources and Land resources.
- Definition, effects and control measures

Unit V: Pollution

- Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution
Management of environment and Govt. policies.
- Role of pollution control board.

References:

1. Agrawal, K.C. (2001). Environmental biology. Bikaner: Nidhi publishers Ltd.
2. Frank, H. and Walter, H., (1976). Turners school health education. Saint Louis: The C.V. Mosby Company.
3. Nemir, A. (n.d.). The school health education. New York: Harber and Brothers.
4. Odum, E.P. (1971) Fundamental of ecology. U.S.A.: W.B. Saunders Co.

DEFINITION OF HEALTH

- According to **WHO** Health is a state of complete, physical, mental and social well being. It is not merely freedom from disease and infirmity.

DIMENSIONS OF HEALTH

- Physical
- Mental
- Social
- Moral
- Spiritual

Physical

- Physical health is measure of physical fitness of the human organism

Mental

- it is a state of internal adjustment of man, achieved by balancing expectations with realizations

social

- Social health denotes successful adjustment of a man in his society

Moral

- Moral health is indication of the adherence of an individual to an acceptable moral code which adds strength to his conduct and character

Spiritual

- Spiritual health is related to soul or spirit which though a separate and a distinct entity is an essential ingredient of human life and personality

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WHO Definition of Health

Health is “a state of complete physical, mental and social well-being, and not merely an absence of disease or infirmity; [recently amplified to include –) and an ability to lead a socially and economically productive life”.

- Is an ‘idealistic goal rather than a realistic proposition’
- It does not regard health as a dynamic concept (but as a state).

New philosophy of health:

In recent years, we have acquired a new philosophy of health, which may be stated as:

Health is a fundamental human right.

Health is the essence of productive life and not the result of ever increasing expenditure on medical care.

Health is inter-sectoral.

Health is an integral part of development.

Health central to the concept of quality of life.

Health involves individuals, community and international responsibility.

Health and its maintenance is a major social investment.

Health is world-wide social goal.

Dimensions of health

Health is multidimensional, The WHO definition stress on three specific dimensions - the physical, the mental and the social dimensions.

1. Physical Dimension

The state of physical health implies the notion of "perfect functioning" of the body. It conceptualizes health biological as a state in which every cell and every organ is functioning at optimum capacity and in perfect harmony with the rest of the body. It is what we mean when we say that this person looks healthy.

2. Mental Dimension:

Mental health not mere absence of mental illness. Mental health has been defined as "a state of balance between the individual and the surrounding world, *or* a state of harmony between oneself and others *or* a coexistence between the realities of the self and that of other people and that of the environment".

Assessment of mental health at the population level may be made by administering mental status questionnaires by trained interviewers.

3. Social dimension:

Social well-being implies harmony and integration within the individual, between each individual and other member of society and between individuals and the world in which they live. It has been defined as the *"Quantity and quality of an individual's interpersonal ties and the extent of involvement with the community"*.

4. Spiritual dimension:

Includes integrity, principles & ethics, the purpose of life.

Spectrum of health

Health and disease lie on a continuous scale. The lowest point on the health-disease spectrum is death and the highest point corresponds to the WHO definition of positive health.

Ideal health: This conforms to the WHO definition of health

Positive health: Mean perfect continuing adjustment between the individual and the environment.

Negative or marginal health: the individual is in a state of equilibrium, he 2 looks healthy, but he has no ability to adjust himself to his surroundings, he is going to fall ill on the slightest adverse stimulus.

Unapparent (pre-clinical) disease: is not recognized by the individual, but can be discovered by examination and screening tests.

Apparent disease: The individual aware about his illness, whether seeks medical care or not.

Death: This is the end of the health spectrum

Determinants of health

Health is multifactorial. Determinants of health mean factors that lead to differences in health status. These factors either:

Uncontrollable Factors "Non-modifiable": (genetics, gender, predisposition to a disease)

Controllable Factors “Modifiable”: (diet, smoking status, exercise levels).

So health is affected by multiple factors. These factors are related to the individual or to the surrounding environment and they affect directly or indirectly on the level of health and the occurrence of a disease.

Biological determinants or host factors include:

Genes: It is not where community medicine can interfere much. Genes will continue to produce diseases and we can at most go for genetic screening and counseling of high-risk parents.

Age, gender, weight, height

Other factors related to susceptibility: Immunity

Social Determinants: Refer to the determinants within the social environment that impact on health Status:

Economic status: It determines the purchasing power, standard of living, quality of life and disease pattern. poverty and affluence can both be curses over health.

Education: The world map of poverty, unemployment, communicable diseases closely coincides with that of illiteracy.

Occupation: Unemployment leads to high morbidity and mortality, psychic and social disorders. Working in a physically/mentally hostile environment (acid factory/dye industry/hostile colleagues) will affect the health of the individual.

Stress

Food security & nutrition

Access to health care

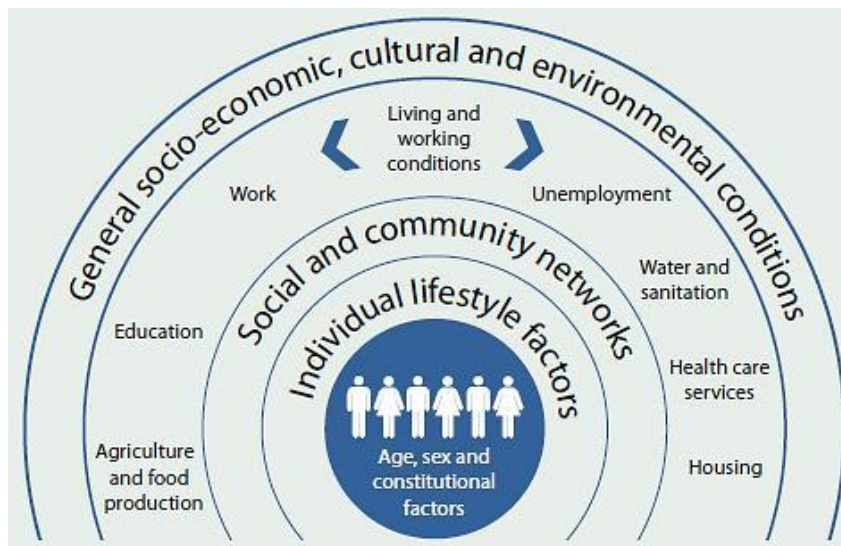
Environmental Determinants

Internal environment: The cause of majority of noncommunicable disease like ischemic heart diseases, diabetes, etc.

External environment: Most communicable diseases are due to the external environment. The external environment can be divided into physical, biological and psychosocial components—each of which affects health.

Behavioral & Lifestyle:

Behaviors which refers to the choices people make in their lives that impact on health (dietary and sexual behavior, physical activity, smoking, drug use...etc)



Determinants of health

Quality of Life

A recent definition of quality of life as follows “Individuals’ perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”.

Public health is the

Science and art of

Preventing disease

Prolonging life

Promoting health and efficiency of each individual through,

An organized community effort.

Essential public health functions:

Protection of the environment

Health education

Health legislation and health regulations

Prevention and control of communicable diseases

Care of special groups as mothers, children and workers in hazardous occupations

Assessment of health needs, plans and supports the provision of health care services to the population.

Community medicine: is the application of the principles of public health to communities (A community is a group of individuals sharing an identity, culture, and operate through common institutions and organizations).

Community medicine vs clinical medicine

	Clinical Medicine	Community Medicine
Concerned with	Individual case	Defined population
Objective	Patient cure	Health improvement
Information	Complaint, History	Morbidity, mortality and related factors
Investigations	Lab. tests, X ray, etc.	Survey studies
Diagnosis	Differential diagnosis	Community diagnosis
Resources	Available therapy	Health and health related services
Management	Treatment	Health program (Prevention & promotion)
Evaluation	Follow up of patient	Evaluation of program

Concept of Disease Occurrence

Disease: is a pathological condition that interferes with normal body function and causes impairment of health.

WHO defines **three concepts** which refer to distinct and important dimensions of human experience in the context of disease:

Impairment –changes in the individual’s body (any loss or abnormality of psychological, physiological or anatomical structure of function)

Disability –any restriction or lack of ability to perform an activity in the manner or within the range considered normal for the human being.

Handicap - a disadvantage for a given individual, resulting from an impairment or disability, that limits or prevents the fulfillment of a role in the community that is normal

Classification of diseases:

By onset: Acute, Sub-acute and Chronic.

By diagnosis (Pathological picture): Inflammatory and Neoplastic

By communicability:

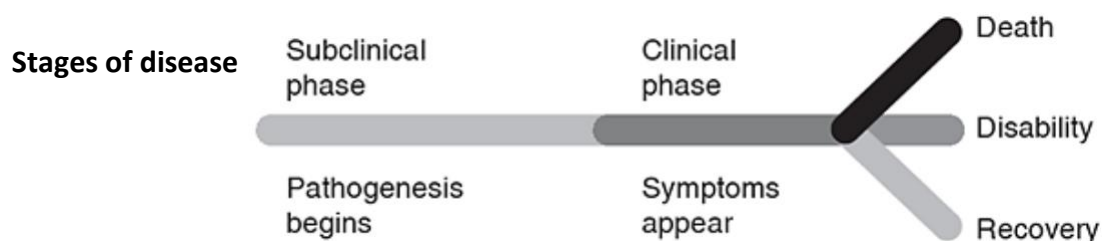
Communicable (infectious disease that readily spread from person to person) such measles.

Non communicable, also known as chronic diseases, are not passed from person to person. They are of long duration and generally progress slowly such Diabetes mellitus.

Hazards of diseases: Morbidity, Disability and Mortality.

Natural history of disease/ clinical course

The natural history of disease is the evolution of course of a disease overtime uninterrupted by any treatment.



Health and disease lie on a continuous scale. The lowest point on the health-disease spectrum is death and the highest point corresponds to the WHO definition of positive health.

COMMUNICABLE DISEASES

INTRODUCTION

Communicable Disease is one that can be transmitted from one person to another and is caused by an infectious agent that is transmitted from a source or reservoir to a susceptible host. Communicable disease is one in which the causative organism or pathogen is carried from one person to another either directly or indirectly. Communicable diseases are also called as Infectious Disease.

ENVIRONMENT DISEASE Infectious Disease Model

Types of Communicable Disease Depending

- Sexually Transmitted Disease
- Surface Infections
- Arthropod Borne Infections
- Intestinal Infections
- Respiratory Infections (upon source):

No. Infectious agents Diseases

1. **Viruses** Common cold, Influenza, Measles, Mumps, Chicken pox, AIDS, Hepatitis-B
2. Bacteria Cholera, Typhoid, Tuberculosis, Tetanus, Anthrax, Food poisoning
3. Fungi Skin infections.
4. Protozoans Malaria, Kala-azar, Amoebic dysentery, Sleeping sickness.
5. Worms Intestinal infections, Elephantiasis.

Respiratory Infections Are caused by germs — viruses, bacteria or other pathogenic microbes. Germs that can infect the respiratory system — lungs, throat, airways — can often be spread through mucus and saliva (also known as "respiratory secretions") expelled when a person coughs, sneezes, talks or laughs. Some of these germs are spread through droplets small enough to remain suspended in the air and travel over long distances.

Some of the Respiratory Diseases are :

1. Tuberculosis
2. Chicken pox
3. Measles
4. Influenza
5. Diphtheria
6. Whooping cough

Tuberculosis • Specific infectious disease primarily affecting the lungs (Pulmonary tuberculosis - most common).

- It also affect all other vital organs like intestine, brain, bones, joints, lymph glands, skin etc.
- Incubation period: – From weeks, months to years depending upon dose of infection & immunity of patient.

Mode of Transmission Tuberculosis is mainly spread by,

1. Droplet infection (Produced by sputum of positive patient)
2. Coughing

Sign & Symptoms

1. Tiredness
2. Loss of appetite
3. Loss of weight
4. Anemia
5. Evening rise in temperature
6. Cough for long time

PREVENTION

1. Raising the resistance of the population to the disease by
 - i. Good social conditions: - Satisfactory housing & adequate diet.
 - ii. BCG (Bacille Calmette Guerin) Vaccination: - After birth
2. Elimination of tuberculosis infection in milk: By pasteurization of milk.

Chicken Pox • Also called – Varicella • Occur mainly in Children under 10 years of age. • Uncommon in adults.

- Incubation Period : About 14 – 16 days.

Mode of Transmission Chicken pox is mainly spread by,

1. Droplet infection
2. Freshly contaminated fomites used by patients can transmit disease.
3. Virus can cross placental barrier & may affect fetus.

Sign & Symptoms

1. Fever
2. Appearance of rash in the form of crop on trunk, face and limbs.
3. Macules (small flat colored spot on skin) appear first and with in 24 hrs. lesions are appear.
4. them lesions becomes dry to form scabs.

PREVENTION

1. Use of local antiseptics like chlorhexidine.
2. If bacterial infection progress give antibiotics.
3. Transmission prevented by isolation of patient for 5-7 days.
4. Sterilization of all articles used by patient after cure .

Measles • Also called – Rubeola • Occur in children of 3-5 yrs of ages. • Incubation Period : About 8–14 days.

Mode of Transmission Influenza is mainly spread by,

1. Droplet infection

2. Direct contact

Stage 2(Stage of eruption) Red rash seen at back of ears & foreheads along hairline Rash spread all over body.

Stage 1(Catarrhal stage) Fever Running nose Cough Appearance of red spot in mouth Watering of eyes

Sign & Symptoms Prevention

1. Active immunization: By live attenuated measles virus over one year age.
2. Passive immunization By Human normal immunoglobulin.

Arthropod Borne Infections Arthropod Borne Infectious diseases are human illnesses caused by parasites, viruses and bacteria that are transmitted by mosquitoes, sandflies,bugs, blackflies, snails and lice. Every year there are more than 700 000 deaths from diseases such as malaria, Plague etc

Some of the Arthropod Borne Infectious diseases are : 1.Malaria 2.Plague 3.Filariasis

Malaria •

Occur in most topical regions.

- Protozoa disease (Protozoan infections are parasitic diseases caused by organisms).
- Transmit by bite of anopheles mosquitoes
- Incubation Period : About 9–30days.

Mode of Transmission Malaria is mainly spread by,

1. Vector transmission: By bite of female anopheles mosquito
2. Direct transmission: By injections of infected blood or plasma
3. Congenital: Infected mother to new born

Sign & Symptoms

1. Cold Stage Onset of Fever with chills and sensation of extreme cold.
2. Hot Stage Temperature rise up to 106 Intense headache.
- 3.Sweating stage: Fever decreases with sweating.

Prevention 1. Prevention against mosquito bite 2. Anti larval measures 3. Anti adult mosquito measures 4. Control of human reservoir

Plague • Zoonotic or zoonosis disease (infection transmitted to man by infected rat fleas)

- Vector - Rat Incubation Period : About 9–30days.

Prevention

1. **General measures Prophylaxis** for prevention bites of fleas – by controlling rats. Early diagnosis, notification, isolation & disinfection of excretions like sputum. Attendant must wear protective measures like gloves etc.
2. Chemoprophylaxis Protect by using suitable drugs.
3. Vaccination Two vaccines used a. Killed vaccine b. Attenuated vaccine

Surface Infections An infection of the skin that can be caused by bacteria, fungus, viruses or parasites. Some of Surface Infectious diseases are :

1. Rabies
2. Trachoma
3. Tetanus
4. Leprosy

Rabies • Also called – Hydrophobia • Caused by virus Infect CNS & salivary glands. • Incubation Period : o varies with patient to patient o Shorter in children o Also depends upon site of infection o Face : 30 days o Hands: 40 days o Legs: 60 days • Whole minimum time is 9 days – 4 to 8 weeks.

Mode of Transmission Mainly spread by,

1. Zoonosis
 2. Spreads by wide range of animals
 3. Mostly by bites or lick on broken skin
- Sign & Symptoms

Prevention

1. **Pre-exposure prophylaxis Risky** persons like zoo keepers should be immunized. Compulsory vaccination of pets & stray dogs.
 2. Post-exposure prophylaxis Prompt & proper treatment Also take following measures, Wash area of bite using plenty of soap & water for about 5 min. Apply antiseptics like tincture of iodine
- Vaccination: 1 ml vaccine at 0,3,7,14,30 & 90 days.

Leprosy Also called – Hansen's disease • Chronic infections of human. • Affect & damage superficial tissue especially skin and peripheral nerves.

• Incubation Period : About 3–5 years

Mode of Transmission Mainly spread by,

1. Direct transmission Prolonged close contact with an infected person.
2. Through air borne droplets

Sign & Symptoms

1. Initially nerve damage causes numbness of skin on face, hands & feet.
2. Affected skin may become thickened & discolored.
3. Loss of sensation
4. Lack of sensation leads to injury or even loss of fingers or toes.

Prevention

1. **Isolation of** patient
2. Early diagnosis & chemotherapy
3. Treated with some specific drugs such as dapsone.
4. Create awareness about leprosy Avoid over crowding Bad personal hygiene Avoid of sharing of cloths etc
5. For prophylactic purposes use BCG vaccine

Sexually Transmitted Diseases (STD) An infection transmitted through sexual contact, caused by bacteria, viruses or parasites. Some STD are :

1. AIDS
2. Syphilis
3. Gonorrhoea

Syphilis • Is chronic systemic infection Incubation Period : About 10days – 10 weeks. average periods is 3 weeks.

Mode of Transmission Mainly spread by,

1. By sexual contact with infected partner
2. Less common Through blood transmission Mother to child etc.

Prevention

1. Use of contraceptive device
2. Avoid unsafe sexual contact.
3. Create awareness about STD's.

Acquired Immuno Deficiency Syndrome (AIDS) • Chronic infection with HIV

- Reduce immunity to other infections.
- Incubation Period : For Adult's: 8 –10 years For Children's below 5 years: within 2 years

Mode of Transmission Sexual contact with infected person Through infected blood products or blood transfusion By sharing contaminated needles or syringes Infected mother to fetus Also through body fluids like semen. Also through unsterilized piercing, blades.

Sign & Symptoms

1. Symptoms appear within 6 weeks of infection
 - Swollen lymph nodes • Fever • Fatigue • Rash • Sore throat etc.
2. Other symptoms are • Fever persisting for more than one month • Unexpected weight loss • Diarrhea • Tuberculosis

Prevention 1. Create awareness about HIV in children

2. Use protective measures like condoms.
3. Screening of all blood products and tissue for transplant
4. Use sterilization method for instruments used for piercing of nose & ear lobes.
5. Use of disposable single used needle & syringes
6. Use proper protection by health care workers like hand gloves while handling infected patients.

Intestinal Infections Intestinal infections are viral, bacterial or parasitic infections that cause gastroenteritis, an inflammation of the gastrointestinal tract involving both the stomach and the small intestine.

Some of Intestinal diseases are :

1. Poliomyelitis
2. Cholera
3. Typhoid fever
4. Hepatitis
5. Food poisoning
6. Hook worm infection

Cholera • Severe acute GIT infection • Incubation Period : Few hours – 5 days.

Mode of Transmission

1. Through food & water (contaminated by flies, insects & improper storage)
2. Rarely with contaminated hands of persons who handle excreta, vomitus of patients etc.)

Sign & Symptoms

1. Severe watery diarrhea,
2. Occasional vomiting.
3. Weakness.
4. Dehydration.
5. Sub normal temp.
6. Electrolyte imbalance.

Prevention

1. **Strict personal** hygiene.
2. Using boiling drinking water.
3. Early detection of cases.
4. Proper and immediate treatment.
5. Disinfection of infective discharges & clothing must be done
6. Sanitation should be maintained.
7. For prevention use vaccine.
8. Treatment is done by, a. By giving ORS, b. Antibiotics.

Hook Worm Infection • Also called Ancylostomiasis • Caused due to small worms • Attach to walls of intestines and causes bleeding and poisoning.

Mode of Transmission 1. Tiny worms penetrate the base of feet of those working in field.
2. Also transmit through arms & legs.

Sign & Symptoms

1. Patient appear pale and weak
2. Suffer from ringing of ears dizziness, headache etc.
3. In severe case heart is enlarged
4. Nausea & vomiting are frequent.

Prevention

1. By using or providing sewage system
2. Sanitary latrines provide to avoid open air defecation.
3. Human waste & excreta should not be used in fields
4. Shoes should be worn by all workers.