

Public Health and First Aid(Theory)

Total: 6 hours /week

Lecture: 4 hours/week

Tutorial: 0 hour/week

Practical: 2 hours/week

Lab: 0 hours/week

Course Description:

This course is designed to help provide the students with knowledge and skills on basic public health education health care service delivery system of Nepal and first aid practice in broader perspectives. This deals with concept of health and disease and its environmental aspects, dynamics of infectious disease transmission along with their control and management, National health care delivery system to demonstrate overall healthcare service distribution throughout the nation as well as different aspects of environmental pollution their adverse effects on human health and the approaches to combat them. It also encompasses maternal and child health education which relates to the healthcare need and associated risks during pregnancy, delivery and even after delivery along with their management skills.

First aid treatment to the victims of different incidental health aberrations is another key to the learners to achieve lifetime skills on how to response on any such accidental encounter. This helps turn learners into laboratory professionals with enriched skills and knowledge on accidental and emergency health care service delivery to save lives until getting approach to the proper clinical intervention.

Course Objectives

After completion of this course students will be able to:

- Define health and disease,
- Explain the spectrum of health, community health, components and scopes and apply them.
- Define epidemiology and explain its components.
- Describe the dynamics of disease transmission, their prevention and control.
- Identify modes of disease transmission.
- Identify the sources of environmental pollution, their effects on health and preventive measures.
- Manage waste along with hospital waste management approaches.
- Introduce food security, food hygiene, food adulteration, and food borne illnesses and infections and appropriate food preservation techniques.
- Describe current health care delivery system in Nepal and updated health policy
- Conduct basic statistical approaches in healthcare service-related data analyses and health research
- Orient with ethical aspects of laboratory medicine and professional standard.

Course Contents

Unit 1: Public Health

10 hrs

- Health, Community health
 - Concept
 - Definition
 - Spectrum of health
- Concept and definition of Public health
- Functions and goals of Public Health
- Scope of public health and its approaches
- Important public health practices in Nepal.
- Application of public health education in diagnosis.

Unit 2: Basic Epidemiology

15 hrs

- Introduction
- Epidemiological Terminologies :Isolation, Quarantine, Vaccine, Zoonosis, Epidemic, Endemic Pandemic, Sporadic, Vector, Host, Reservoir, Agent , Incubation Period, Window period, Incidence, Surveillance, Prevalence
- Epidemiological triad
- Epidemiological measurements
- Dynamics of infectious disease transmission
- Infection prevention and control measures.
- Immunity and its types, Active and Passive Immunization, National Programme on Immunization
- Screening of diseases, Iceberg phenomenon, Screening types and their application.

Unit 3: Nutrition:

(15 hrs)

- Definition and Concept of Nutrition
- Nutrients
- Classification of Food
- Definition, function, daily requirement, Deficiency disorder of Protein, Carbohydrates, Fats, Vitamins, Minerals
- Concept and characterize Balanced Diet
- Malnutrition
 - Definition
 - Causes
 - Types
 - Prevention
- Food security, food hygiene, food adulteration, food fortification and food preservation techniques

Unit 4: Maternal and Child Health (MCH):

(20 Hrs)

- Definition and Concept of MCH
 - Concept and scope of Safe motherhood
 - Explain ANC and PNC

- Define Obstetric referral
- Concept, Definition, scope of Reproductive Health
- Define Breast feeding
- Describe and explain breast milk and technique and its storage
- Enlist Advantages of breast feeding and disadvantages of bottle feeding
- Identify Common problems related to breast feeding
- Concept of Immunization and current immunization schedule of Nepal
- Family planning, its objectives and different methods of family planning available in Nepal.

Unit 5: Basic hygiene and sanitation

20 hrs

- Water pollution
 - Introduction
 - Causes
 - Water borne diseases.
 - Water purification techniques
- Air pollution
 - Introduction
 - Causes
 - Air pollution borne effects on health
 - Preventive measures for air pollution
- Noise (Sound Pollution)
 - Introduction
 - Causes
 - Effects of Noise on human health,
 - Preventive measures of Noise pollution
- Sterilization and disinfection techniques

Unit 6: Health education and health promotion

7 hrs

- Introduction
- Communication process and its importance.
- Health education; methods and medium
- Importance of health education

Unit 7: Primary Health Care

8 hrs

- National health policy
- National health strategy for ensuring achievement of targeted health goals.
- Concept on primary health care
- Elements of primary health care
- Discussion on principles and strategy for primary health care.
- Role of health worker in primary health care services.

Unit 8: Waste disposal system

20hrs

- Biodegradable and non-biodegradable solid wastes.
 - Minimizing waste 3R concept:
 - Reduce waste
 - Reuse waste
 - Recycle waste
- Disposal of waste
 - Collection
 - Storage
 - Transportation
 - Ultimate disposal
 - Sanitary land filling
 - Dumping
 - Composting
 - Incineration
 - Burial
- Methods of solid waste management.
- Excreta disposal techniques.
- Measures of vector control. (mosquito borne diseases, measures to control mosquito/ rodent borne diseases, control measures of rodents)
- Hospital borne infections,
- Hospital waste Management.
 - Hospital waste
 - Hazards of hospital waste
 - Management of hospital waste
 - separation of waste
 - using incineration
 - management of mercury
 - Hospital waste management guideline according to WHO
- Sources and components of liquid waste
 - Liquid waste management:

Unit 9: First Aid

25 hrs

- First aid treatment and its importance.
- Basic qualities and responsibilities of a first aider.
- Terminologies : Casualty / Victim/ First aider/ Refer/ Trauma/ Antiseptic/ Immobilization / Cyanosis/ Hemorrhage/Stroke
- CAB (Circulation, Airway, and Breathing) and the procedure of cardio-pulmonary resuscitation (CPR)
- Following medical emergencies, their causes, symptoms and first aid management:
 - Shock
 - Intoxication/Poisoning (insecticides/rodenticides/drugs/alcohol)
 - Introduction of foreign bodies in ear, nose, throat and eyes.
 - Road traffic accidents (RTAs)

- Hemorrhage
- Burns
- Frostbite
- Strokes
- Acute mountain sickness
- Broken bones and dislocation
- Rabid animal bite
- Snake and insect bite

Reference Books

- Park's Textbook of Preventive and Social Medicine K Park
- Basic Principles of Management Shrestha, B.M Akshyulak Publication, Nepal. 2039B.S.
- Inventory Control and Basic Logistics Procedure Manual on Store Management for PHC/HP and SHP Personnel. HMG/JSI. 2054B.S.
- Textbook of Preventive and Social Medicine Park, K. B. Bhanot, Jabalpur, India. 2000.
- Health Logistics Procedure Manual NHTC/LMD/USAID JSI, Nepal 2057.
- Health Statistics and EPI Cold Chain Management Procedure Manual. - NHTC/LMD/USAID JSI, Nepal 2057.
- A Handbook of Hygiene and Public Health Y.P. Bedi.
- W.H.O. Excreta disposal
- Environmental Health and Sanitation Shatrughna Ojha.
- Annual Report of Department of Health Services, Ministry of Health
- A Textbook of Health Education, L. Ramachandran and T Dharmalingam, Vikas Publishing House Pvt. Ltd., New Delhi, 2001
- Introduction to Health Education, Water H. Green and Bruce G. Simons Morton, Macmillan Publishing Company, NY
- First Aid ICRC
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| Unit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
| Unit Hours | 10 | 15 | 15 | 20 | 20 | 7 | 8 | 20 | 25 | 140 |
| Marks | 6 | 9 | 9 | 11 | 11 | 4 | 5 | 11 | 14 | 80 |

Public Health and First Aid (Practical)

Practical: 70hrs

Perform the following tasks:

- Analyze the quality of drinking water in microbiology lab.
- Perform standard hand washing techniques.
- Cooperate with other team members in sanitary activities in the community.
- Conduct a health problem related survey in nearby community by means of questionnaire.
- Prepare a modular health education plan for deliberation of health education in selected community or health post.
- Use following health education method effectively:
- Perform Communication exercise, Group discussion, and Role play, Counselling, Lecture, Demonstration and Exhibition.
- Collect and compile health education materials from different organisation.
- Prepare simple media for health education like Poster, Flannel graph, Models, Charts and graphs, Puppets and Pamphlets
- Observe hospital waste disposal techniques in the clinical laboratory of Tertiary care hospital or NPHL.
- Observe water purification process on large scale (Industrial level) to the nearby water purification plant.
- Observe current health care delivery system through national health facility.
- Observe milk processing (pasteurization, safe packaging and transport) in a nearby firm.
- Observe waste disposal technique
- Measure temperature, pulse, respiration, blood pressure and Body mass index (BMI).
- Demonstration of injection, application of dressing, bandages and splint.
- Perform cardio-pulmonary resuscitation.
- Role played by learners on different medical emergencies.