

COMMUNITY MEDICINE — M D

DEPARTMENTAL OBJECTIVES

Goal of teaching and training of postgraduates in Community Medicine is directed towards achievement of the goal of “Health for All”. Aim of postgraduate training is to prepare the students to be –

- Teachers
- Researchers & Epidemiologists
- Health Planners, Organizers and Administrators
- Workers in the Community
- Other service Personnel in this specialty

Towards this end, by the completion of his/her training, the Postgraduate student be :

1. Aware of physical, social, psychological, economic and environmental aspects of health and disease in individual, family and community.
2. Able to apply the clinical skills to recognize and manage common health problems including their physical, emotional, social and economic aspects at the individual and family levels
3. Able to manage deal with medical emergencies at the community level.
4. Able to identify, plan and manage the health problems of the community he/she serves. To achieve this, he/she will be able to :
 - 4.1. Organize epidemiological research studies in various aspects of health. For this, he/she should be able to design a study, collect data, analyse it with appropriate statistical tests and make a report.
 - 4.2. Identify the health needs and health demands of the community and prioritise the most important problems and help formulate a plan of action to manage them under National Health Programmes guidelines including population control and family welfare programme. He/she should be able to assess and allocate resources, implement and evaluate the programmes.
 - 4.3. Demonstrate ability of organizing prevention and control of communicable and non-communicable diseases.
 - 4.4. Organize health care services for special groups like mothers, infants, under-five children, school children, handicapped children and juvenile delinquents etc.

- 4.5. Organise health care in case of disasters and calamities.
- 4.6. Able to work as an effective member of the health team and as a team leader.
- 4.7. Able to co-ordinate with and supervise other members of the health team and maintain liaison with other agencies.
- 4.8. Able to plan and implement health education programmes.
- 4.9. Able to promote community participation especially in areas of disease control, health education and implementation of national programmes.
- 4.10. Aware of the national priorities and the goals to be achieved to implement primary health care.
- 4.11. Able to act as an effective teacher and trainer of Community Medicine.

What follows is only one aspect of the Curriculum. It does not include the Methods of Instructions and the Evaluation Tools.

COURSE CONTENTS

I. CONCEPTS IN HEALTH

1. Definition of health; appreciation of health as a relative concept; determinants of health.
2. Characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease.
3. Understanding of various levels of prevention with appropriate examples.
4. Indices used in measurement of health.
5. Health situation in India : demography, mortality and morbidity profile and the existing health facilities in health services.
6. Difficulties in measurement of health.
7. National Health Policy

II EPIDIMIOLOGY

1. Use of epidemiological tools to make a community diagnosis of the health situation in order to formulate appropriate intervention measures.
2. Epidemiology : definition, concept and role in health and disease.
3. Definition of the terms used in describing disease transmission and control.
4. Natural history of a disease and its application in planning intervention.
5. Modes of transmission and measures for prevention and control of communicable and non-communicable disease.
6. Principal sources of epidemiological data.
7. Definition, calculation and interpretation of the measures of frequency of diseases and mortality.
8. Common sampling techniques, simple statistical methods for the analysis, interpretation and presentation of data frequency distribution, measures of central tendency, measures of variability, statistical tests of significance and their application.

9. Need and uses of screening tests.
10. Accuracy and clinical value of diagnostic and screening tests (sensitivity, specificity, & predictive values).
11. Epidemiology of communicable and non-communicable diseases of public health importance and their control.
12. Epidemiological basis of national health programmes.
13. Awareness of programmes for control of non-communicable diseases.
14. (a) Planning and investigation of an epidemic of communicable diseases in a community setting.
(b) Institution of control measures and evaluation of the effectiveness of these measures.
15. Various types of epidemiological study designs.
16. The derivation of normal values and the criteria for intervention in case of abnormal values.
17. Planning an intervention programme with community participation based on the community diagnosis.
18. Applications of computers in epidemiology.
19. Critical evaluation of published research.

III EPIDEMIOLOGY OF SPECIFIC DISEASES

The specific objectives of selected communicable diseases of public health importance for which National Disease Control/Eradication Programmes have been formulated are described here. For other diseases, the individual teacher would formulate the objectives while drawing the lesson plans. The idea of formulating objectives for a few diseases is to highlight their importance and to emphasise certain learning outcomes.

Infective hepatitis, ARI, T.B. Malaria, Filariasis, STDs & AIDS, Diarrhoeal diseases, Kala Azar, Mental Health, Coronary heart disease, Blindness, Hypertension, Leprosy, Accidents, JE, VPDs, Plague, Chickenpox etc.

1. Extent of the problem, epidemiology and natural history of the disease.
2. Relative public health importance of a particular disease in a given area.
3. Influence of social, cultural and ecological factors on the epidemiology of the disease.
4. Control of communicable and non-communicable disease by :
 - 4.1. Diagnosing and treating a case and in doing so demonstrate skills in :
 - (i) Clinical methods
 - (ii) Use of essential laboratory techniques
 - (iii) Selection of appropriate treatment regimes.
 - (iv) Follow-up of cases.
 - 4.2. Principles of planning, implementing and evaluating control measures for the diseases at the community level bearing in mind the relative importance of the disease.
5. Institution of programmes for the education of individuals and communities.
6. Investigating a disease epidemic.
7. Knowledge of the National Health Disease Control Programmes.
8. Level of awareness of causation and prevention of diseases amongst individuals and communities.

9. Control of communicable and non-communicable diseases by diagnosing and treating a case and in doing so, demonstrate skills in :
 - 9.1. Instituting measures, where necessary, for preventing disabilities/deformities.
 - 9.2. Rehabilitation of the patient
10. Training of health workers in disease surveillance, control and treatment, health education.
11. Managerial skills in the areas of
 - (i) Planning and organization of health services.
 - (ii) Supervision,
 - (iii) Collection and compilation of data,
 - (iv) Maintenance of records,
 - (v) transmission of data.

IV BIOSTATISTICS

- 1.1. The scope and uses of biostatistics.
- 1.2. Collection, classification and presentation of statistical data.
- 1.3. Analysis and interpretation of data.
2. Obtaining information, computing indices (rates and ratio) and making comparisons.
3. Apply statistical methods in designing of studies.
 - (a) Choosing of appropriate sampling methods and sample size.
 - (b) Applying suitable test of significance
 - (c) Use of statistical tables.

V ENTOMOLOGY

1. Role of vectors in the causation of diseases.
2. Steps in management of a case of insecticide toxicity.
3. Identifying features of and mode of transmission of vector borne diseases.
4. Methods of vector control with advantages and limitations of each.
5. Mode of action, dose and application cycle of commonly used insecticides.

VI ENVIRONMENTAL SANITATION

1.
 - (a) Awareness of relation of Environment to Health.
 - (b) Awareness of the concept of safe and wholesome water.
 - (c) Awareness of the requirements of a sanitary sources of water.
 - (d) Understanding the methods of purification of water on small scale with stress on chlorination of water
 - (e) Various biological standards.
2. Concepts of safe disposal of human excreta.
3. Physical, chemical standards; tests for assessing quality of water.
4. Disposal of solid waste, liquid wastes both in the context of urban and rural conditions in the

community.

5. Problems in the disposal of refuse, sullage and sewage.
6.
 - (a) Sources, health hazards and control of environmental pollution.
 - (b) Influence of physical factors – like heat, humidity, cold, radiation and noise – on the health of the individual and community.
 - (c) Standards of housing and the effect of poor housing on health.

VII REPRODUCTIVE & CHILD HEALTH (RCH)

1. Need for specialised services for women and children.
2. Magnitude of morbidity and mortality in these groups in a given area.
3. Local customs and practices during pregnancy, childbirth and lactation.
4. Concepts of “high risk” and “MCH Package”, child survival and Safe Motherhood, Integrated Child Development Services Scheme and other existing regional programmes.
4. Under-5 : morbidity, mortality, high risk and care.
6. Monitoring of growth and development and use of Road to Health Chart.
7. Immunization
 - all aspects (Basics of immunization; immunizing agents; administration, storage and transportation of vaccines; cold chain, side effects & complications etc.)
 - Newer vaccines
8. Organization, implementation and evaluation of programmes for mothers and children as per National Programme guidelines.
9. Role of Genetics in Community Health and Genetic Counseling at Primary Care Level.
10. National Policy in children.

VIII DEMOGRAPHY & FAMILY PLANNING

1. Definition of demography and its relation to Community Health.
2. Stages of the demographic cycle and their impact on population.
3. Definition, calculation and interpretation of demographic indices like birth rate, death rate, growth rate, fertility rates.
4. Reasons for rapid population growth in the world, especially in India.
5. Need for population control measures and the National Population Policy.
6. Identify and describe the different family planning methods and their advantages and shortcomings.
7. Principles of Counselling; Client satisfaction.
8. Medical Termination of Pregnancy Act.
9. Organisational, technical and operational aspects of the National Family Welfare Programme and participation in the implementation of the Programme. Target Free Approach.
10. Give guidelines for MTP and infertility services.
11. Recent advances in contraception.
12. National Population Policies.

IX HEALTH PLANNING AND MANAGEMENT

1. Explain the terms ; public health, public health administration, regionalisation, comprehensive health care, primary health care, delivery of health care, planning, management, evaluation, National Health Policy, Development of Health Services in India and various committee reports.
2. Components of health care delivery.
 - (i) describe the salient features of the National Health Policy concerning :
 - (a) provision of medical care; (b) primary health care and Health for All; (c) health manpower development; (d) planned development of health care facilities; (e) encouragement of indigenous systems of medicine.
 - (ii) explain the process of health planning in India by demonstrating awareness of :
 - various important milestones in the history of health planning including various committees and their recommendations.
 - the health systems and health infrastructure at centre, state district and block levels.
 - the inter-relationship between community development block and primary health centre.
 - the organisation, function and staffing pattern of community health centre, primary health centre, rural health centre and sub-centre etc.
 - the job descriptions of health supervisor (male and female); health workers; village health guide; anganwadi workers; traditional birth attendants.
 - the activities of the health team at the primary health centre, Community health centre, district hospital.
3. Familiarity with management techniques : define and explain principles of management; explain broad functions of management; personnel and materials management.
4. The components of health care delivery,. For this, he should;
 - Appreciate the need for International Health Regulations and Disease surveillance.
 - Be aware of the constitutional provisions for health in India.
 - Enumerate the major divisions of responsibilities and functions (concerning health) of the union, local and the state governments.
 - Appreciate the role of national, international voluntary agencies in health care delivery.
5. Explain general principles of health economics and various techniques of health management e.g., cost-effectiveness, cost-benefit etc.

X – NUTRITION

1. Nutritional problems of the country; Role of nutrition in Health & Disease.
2. Common sources of various nutrients and special nutritional requirement according to age, sex, activity, physiological conditions.
3. Nutritional assessment of individual, families and the community by selecting and using appropriate methods such as : anthropometry, clinical, dietary, laboratory techniques.
4. Compare recommended allowances of individual and families with actual intake.
5. Plan and recommend a suitable diet for the individuals and families bearing in mind local availability of foods, economic status etc.

6. Common nutritional disorders : protein energy malnutrition, Vit. A deficiency, anemia, iodine deficiency disorders, fluorosis, food toxin diseases and their control and management.
7. National Nutritional Policy.
8. National programmes in nutrition and their evaluation.
9. Food adulteration : prevention and control.

XI SOCIOLOGY

1. Conduction of a clinico-social evaluation of the individual in relation to social, economic and cultural aspects; educational and residential background; attitude to health, disease and to health services; the individual's family and community.
2. Assessment of barriers in health behaviour and identification of obstacles to good health, recovery from sickness and to leading a socially and economically productive life.
3. Development of a good doctor – patient relationship, public relations and community participation for health sectors.
4. Identification of social factors related to health and disease in the context of urban and rural societies.
5. Impact of urbanisation on health and disease.

XII SCHOOL HEALTH

1. Problems of school and adolescents; Objectives of the School Health Programme.
2. Activities of the Programmes like :
 - (a) Carrying out periodic medical examination of the children and the teachers.
 - (b) Immunisation of the children in the school.
 - (c) Health Education
 - (d) Mid-day meals.
3. Obtaining participation of the teachers in the school health programme including maintenance of records; defining healthful practices; early detection of abnormalities.
4. Organization, implementation, supervision and evaluation of School Health Programme.

XIII OCCUPATIONAL HEALTH

1. Relate the history of symptoms with the specific occupation including agriculture.
2. Identification of the physical, chemical and biological hazards to which workers are exposed to while working in a specific occupational environment.
3. Diagnostic criteria of various occupational diseases.
4. Preventive measures against these diseases including accident prevention.
5. Various legislations in relation to occupational health.
6. Employees State Insurance Scheme.

XIV HEALTH EDUCATION (INFORMATION, EDUCATION, COMMUNICATION)

1. Communicate effectively with individuals, family and community using tools and techniques of information, education, communication. To do so, the student should :
 - (a) Appreciate principles of communication and barriers to effective communication.

- (b) Principles, methods and evaluation of health education.
 - (c) List various methods of health education with their advantages and disadvantages.
 - (d) Select and use appropriate media (simple audiovisual aids) for effective health education.
2. Use every opportunity for health education of the individual, family and the community.

XV URBAN HEALTH

1. Common health problems (Medical, Social, Environmental, Economic, Psychological) of urban slum dwellers.
2. Organisation of health services for slum dwellers.
3. Organisation of health services in urban areas.

XVI TEACHING & TRAINING

1. Able to act as a good teacher/facilitator. For this, he/she will require –
 - knowledge of general principles of teaching/learning, methods of instructions, methods of evaluation.
 - Knowledge of various teaching aids (including a.v.aids) and skills to use them correctly.

SKILLS

PART – II: GENERAL SKILLS

The postgraduate student should be able to :

1. Elicit the clinico-social history to describe that agent, host and environmental factors that determine and influence health.
2. Recognise and assist in management of common health problems of the community.
3. Apply principles of epidemiology in carrying out epidemiological studies in the community.
4. Work a team member in rendering health care.
5. Carry out health education effectively for the community.

PART – II : SKILLS IN RELATION TO SPECIFIC TOPICS

1. Communication

The student should be able to communicate effectively with family members at home; patients at clinics or at homes; individuals, family or a group for health education; peers at scientific forums.

2. Team activity

Work as a member of the health team; in planning and carrying out fieldwork like school health.

3. Environmental sanitation

Collect water samples for microbiological evaluation; chlorination of water; estimate the chlorine demand of water; estimate the residual chlorine of water; insecticides: their proper storage and use in control of vectors.

4. Communicable and Non-communicable diseases (including social problems)

- (a) Eliciting clinico-social history and examining the patient for diagnosis and treatment.

- (b) Collection of appropriate material for microbiological, pathological or biochemical tests.
- (c) Fixing, staining, and examining smears – peripheral blood smear for malaria and filariasis, sputum for AFB; slit skin smears for leprosy; Hb estimation; urine and stool examination.
- (d) Assessing the severity and/or classifying dehydration in diarrhoea, upper respiratory tract infection, dog bite, leprosy.
- (e) Adequate and appropriate treatment and follow-up of leprosy, malaria, filariasis, rabies, upper respiratory tract infections, diarrhoea and dehydration.
- (f) Advice on the prevention and prophylaxis of common diseases like vaccine preventable diseases, tetanus, malaria, filariasis, rabies, cholera, typhoid, intestinal parasites.
- (g) Use of proper screening methods in early diagnosis of common diseases.
- (h) Take necessary steps in disease outbreak/epidemics/natural disasters – investigation of epidemic, food poisoning; notification; organising medical care following disasters.

5. Reproductive and Child Health

- (a) Antenatal – examination of the mother; application of the risk approach in antenatal care.
- (b) Intranatal – conducting a normal delivery; early recognition of danger signals in intranatal period; referral of cases requiring special care.
- (c) Postnatal – assessment of the mother and new born, advice about appropriate family planning method; promotion of breast-feeding; advice on weaning.
- (d) Assessment of growth and development of the child – use of ‘road to health’ card; recording important anthropometric assessments of the child; giving immunisation to the child; identifying high-risk infant.

6. Statistics

- (a) Choose proper sample, sampling method and sample size.
- (b) Apply appropriate tests of significance to make a correct inference.

7. Nutrition

- (a) Conducting a diet survey.
- (b) Community survey and clinical diagnosis of nutritional deficiencies : vitamin A deficiency, iodine deficiency, malnutrition.
- (c) Making recommendations regarding diet.

8. Occupational Health

- (a) Inspection of work sites
- (b) Recommendation in improving work sites.
- (c) Medical examination of workers.

9. Health Care of the Community

- (a) Ensuring community participation in health care.
- (b) Arranging intersectoral coordination where necessary
- (c) Working in liaison with other agencies involved in health care in various National Health Programmes.

10. Health Management

- (a) Be an effective team leader.
- (b) Guide and train workers.
- (c) Supervision of workers and programmes.

11. Family Planning : Counselling on appropriate methods.

: Organize, Implement, Supervise & Evaluate Family Welfare Programme in an area.

12. Managerial Skills**13. Teaching Skills**