

University of Basrah

College of Medicine

Department of Community Medicine

Curriculum

undergraduate students

3.1. Broad objectives for undergraduate community medicine

The curriculum topics are designed to help trainees:

1. To acquire basic knowledge on main components of community medicine interests.
2. To develop relevant competencies and skills in epidemiology and statistics so as to be able to measure and evaluate health and health care services.
3. To develop abilities and competencies in the epidemiology and control of major health problems at population level.
4. To develop basic principles of scientific research.
5. To develop understanding of primary health care as strategy and services to the population.
6. To contribute to the requirements of graduation of competent doctors to serve national, regional as well as local goals.
7. To be prepared for postgraduate training in the future.
8. To be prepared to pursue self learning towards continuing professional development.

3.2. Third year medical students

3.2.1. Objectives

The course is designed to enable the student to:

1. Define statistics and list the main uses of statistics in medicine.
2. List methods of data presentation and demonstrate the ability to present raw data in meaningful form.
3. State the purpose of a frequency distribution and cumulative frequency distribution in describing a set of biological measurements.
4. Distinguish between normal frequency distribution and skewed distribution
5. Define the mean, mode, median and standard deviation and standard error and compute each of them from grouped and ungrouped data.

6. Use the standard error to compute 95% confidence limit for a mean or a proportion.
7. Distinguish between the standard deviation and the standard error and give examples of the use of each.
8. Select and compute necessary calculations to explore the statistical significance of a comparative qualitative and quantitative set of data.
9. Interpret statements of statistical significance with regard to comparisons of means and frequencies and explain what is meant by statements such as " $P < 0.05$ ").
10. Explain the main pathways of metabolism of major diet components.
11. define the requirements of major human nutrients.
12. Explain the nutrient requirements of special groups (e.g., pregnant woman).
13. Explain the interaction of infection and nutritional status of an individual.
14. List the main approaches to assess nutritional status of population.
15. List and define major nutritional diseases.

3.2.2. Syllabus

The course consists of 30 theoretical hours and 30 practical hours. The details are shown in Table 1 below:

Table 1: detailed topics of community medicine to third year medical students

| Term and main subject | Topics | Hrs |
|--|---|-----|
| First Term: Medical statistics | Introduction to medical statistics | 1 |
| | Summarization and presentation of data | 2 |
| | Measurement of central location | 1 |
| | Measurement of variability | 1 |
| | Introduction to sampling | 2 |
| | The normal distribution and its characteristics | 1 |
| | The confidence interval and limit | 1 |
| | Tests of significance: ► the Z test ► the t test ► the X^2 test | 3 |

| | | |
|--------------------|---|-----------|
| | The concept of community diagnosis as an application of statistics in measuring population health | 3 |
| Sub-total | | 15 |
| | Definition of relevant terms | 1 |
| | Nutrient metabolism and requirements | 3 |
| | Nutrition and infection | 1 |
| | Nutrition of specific groups of population | 2 |
| | Nutritional surveys and assessment of nutritional status of population | 2 |
| | Selected Nutritional diseases | 3 |
| | Diet therapy and nutritional rehabilitation | 3 |
| Sub-total | | 15 |
| Grand-total | | 30 |

Practical: This consists of class-based desk exercise sessions, two hours each. The classes are run as one session per week for the 15 weeks during the first term. Students are divided into groups of 15-25 students each. Each group is assigned a tutor from the department faculty. Recently the tutors are rotating on groups to interchange expertise and experience and to reduce interpersonal variation in assessing the students

No practical classes are organized during the second term but a demonstration exercise may be arranged.

3.2.3. Student assessment

The minimum requirement of a student to be transferred to fourth year is to achieve at least 50% of the total 100 marks assigned for the course.

The marks are distributed as follows:

- a. First term 10 marks based on daily continuous assessment using approved check list plus written short examinations and quizzes.
- b. Mid-year written examination: 20 marks
- c. Second term 10 marks based on one written examination near the end of the term.
- d. Final examinations 60 marks. The final examination consists of two parts; a comprehensive written examination (50 marks) using variety of questions

(MCQ, matching, short answer questions, problems requiring mathematical calculations..etc) and oral examination (10 marks).

Students who fail to attain the 50% cut-off mark are required to re-sit in September for a comprehensive examinations similar to the final one (written and oral). Failing in the re-sit examination entails the student to repeat the academic year.

3.2.4. Books

1. Medical statistics by Bradford Hill
2. Medical statistics by Daniel
3. Students are encouraged to use library and internet to further acquire knowledge from available resources.

3.3. Fourth year medical students

The bulk of the principles and methods of Community Medicine is taught during the fourth year of medical programme. The 4th year course consists of 95 theoretical hours and 120 hours of practical classes and field work.

The theoretical subjects are given in Tables 2-9.

3.3.1. Objectives

The course is designed to enable the student to:

1. Interpret the distribution of disease in a population in terms of person, place and time.
2. Describe the components of a rate, ratio and proportion
3. List, define and compute common rates used to measure fertility, morbidity and mortality in community.
4. Define, absolute risk, relative risk and attributable risk. Interpret their use in epidemiological situations.
5. Distinguish between association and causation and list causal criteria.
6. Describe major epidemiological studies (cross-sectional, longitudinal, case-control and cohort).
7. Make a simple design of an epidemiological study to describe the distribution of disease in population.
8. Make a simple design of an epidemiological study to identify risk factors for a given disease

9. Analyze and interpret results obtained from relevant epidemiological studies.
10. Define sensitivity, specificity and predictive values and compute these measures given the necessary data.

11. Define epidemic, endemic and pandemic and list the steps of investigating and managing an epidemic of a communicable disease
12. Identify the major communicable diseases prevalent in Iraq.
13. Demonstrate the main epidemiological features, specific preventive measures and control measures of common communicable diseases in Iraq.
14. Promptly respond to crises associated with threats of communicable diseases spread.
15. Describe the main epidemiological features, risk factors and preventive measures of major non-communicable diseases (CHD, DM, Cancer, Accidents).
16. Appreciate the role of primary health care approach in dealing with mental health
17. Recognize the principles of planning, management of evaluation of health care programmes in a given setting.
18. Define environmental health and list its main concerns
19. List major risks associated with environmental exposures
20. Describe major effects of work on health
21. Recall major occupational disease
22. List major groups of carcinogens with special reference to the situation in Iraq.
23. Appreciate the role of social and cultural factors in health and disease.

3.3.2. Syllabus

First Term

Total hours:

Theory: 45

Practical: 60

Table 2: General epidemiology (Maximum 15 hours)

| Topics | Hrs. |
|---|------|
| Introduction : concept of health and disease, definition of epidemiology, epidemiological uses and approaches | 2 |
| Epidemiological data: types, sources and limitations | 1 |
| Epidemiological measurements : rates, proportions and ratios | 2 |
| Descriptive epidemiology: person, place and time | 2 |
| Descriptive epidemiological studies: Cross-sectional, Longitudinal, Case control, Cohort, Interventional | 1 |
| The concept of association, causation, risk | 1 |
| Analytical epidemiological studies | 2 |
| Screening and quality control of screening and diagnostic tests- clinical epidemiology | 2 |
| Designing epidemiological studies | 1 |
| The concept and investigation of epidemic | 1 |
| Total | 15 |

Table 3: Epidemiology and control of communicable diseases(Maximum 30 hrs).

| Topics | Hrs |
|---|-----------|
| -DEFINITION OF TERMS | 1 |
| -INFECTIONS ACQUIRED THROUGH THE GASTROINTESTINAL TRACT: | 7 |
| Diarrhoeal diseases: extent of the problem, causes, risk factors and control | 1 |
| Comparative epidemiology of rotavirus, salmonella, cholera and shigellosis | 1 |
| Amoebiasis and shigellosis | 1 |
| Bacterial food poisoning | 1 |
| Poliomyelitis | 1 |
| Infections hepatitis A | 1 |
| Typhoid and paratyphoid fever | 1 |
| - INFECTIONS ACQUIRED THROUGH THE RESPIRATORY SYSTEM (AIR BORNE INFECTIONS): | 10 |
| Acute respiratory infection (ARI): extent, causes, risk factors and strategies of control of ARI | 2 |
| Exanthematous infection: Measles, German measles, chicken pox...etc | 2 |
| Mouth and throat infection: Diphtheria, mumps, and tonsillitis | 2 |
| Whooping cough | 1 |
| Tuberculosis | 1 |
| Leprosy | 1 |
| Acute bacterial meningitis | 1 |

| | |
|---|----|
| - PERCUTANEOUS INFECTION: INFECTIONS ACQUIRED THROUGH THE SKIN | 8 |
| Insect bites: malaria, leishmaniasis | 2 |
| Abrasions: anthrax | 1 |
| Animal bites, rabies | 1 |
| Wounds: tetanus | 1 |
| Injections: hepatitis B, AIDS | 1 |
| Penetration: Schistosomiasis, hookworm | 1 |
| -SEXUALLY TRANSMITTED DISEASES | 2 |
| - ZOONOTIC INFECTIONS | 1 |
| - NOSOCOMIAL INFECTIONS AND TRAVELLER HEALTH | 1 |
| TOTAL | 30 |

The practical in the first term consists of epidemiological desk exercises. These are quantitative practical classes handling specific epidemiological issues covering demographic, vital and health topics. Fourth year students are divided into subgroups of 15-25 students each. The groups are supervised by faculty members in rotation. Exercises are designed to further develop the knowledge and skills in epidemiology.

Second Term: Theory 45 hours Practical 60 hours

Table 4: Epidemiology and control of non-communicable diseases(10 hrs.)

| Topics | Hrs. |
|--|------|
| Epidemiology of ischaemic heart diseases | 2 |
| Epidemiology of diabetes mellitus | 2 |
| Epidemiology of cancer | 2 |
| Epidemiology of accidents | 2 |
| Epidemiology of mental health and geriatrics | 2 |

Table 5: Maternal and child health care (15 hours)

| Topics | HRS |
|---|-----|
| Maternal Health 7 hours | |
| Introduction to MCH care | 1 |
| Components of MCH care | 2 |
| Nutrition during pregnancy | 1 |
| Infection during pregnancy | 1 |
| Low birth weight and prematurity | 1 |
| Evaluation of MCH care | 1 |
| Health care for children 5 hours | |
| under five clinics | 1 |
| growth monitoring | 1 |
| Immunization | 1 |
| Development clinics | 1 |
| care for handicapped children | 1 |
| School health services : concept and plans 2 hours | |

Table 6: Environmental health (5 hours)

| Topics | Hrs |
|--|-----|
| Definition of health and disease within the context of environment, and environmental health | 1 |
| Basic activities of environmental health | |
| Water : sources , quality and related diseases | 1 |
| Air : sources of pollution, health effects and control of air pollution | 1 |
| Toxicology: Common environmental problems | 2 |

Table 7: Occupational health (5 hours)

| Topics | HRS |
|---|-----|
| Definition of occupational health | 1 |
| Objectives of occupational health services | |
| Health hazards associated with work | 1 |
| Health hazards to the environment and community which result from industrial activities | 1 |
| Safety measures in occupation | 1 |
| Selected occupational diseases | 1 |

Table 8: Primary health care (PHC) in Iraq (5 hours)

| Topics | Hrs |
|---|-----|
| Limitation of the hospital model/Justifications for PHC | 1 |
| Definition, contents and difficulties of PHC/ Supportive programmes/ The five star doctor | 2 |
| National PHC programmes: EPI, CDD | 1 |
| National PHC programmes: ARI, MCH, Breast feeding | 1 |

Table 9: Health care administration (5 hours)

| Topics | Hrs |
|--|-----|
| Brief historical view of Iraq health system | 1 |
| Concept of administration/ The planning function | 2 |
| Evaluation of health care services | 1 |
| Health care utilization | 1 |

Second term: practical (60 hours)

These are based on field projects which cover real health and health related problems through household surveys and institutional-based studies in which students use the theoretical knowledge in designing, conducting, analysis and presentation of their results. Field visits are essential component of the second term practical.

3.3.3. Assessment

Fourth year students are critically assessed throughout the academic year with various methods

First term; continuous assessment based on discussions, desk exercises, short written examinations (quizzes) and presentations. The weight of the first term is 10% of the total 100 marks for the whole year.

Mid-year written examination with one paper containing at least four types of questions (short answer, MCQ, problems, matching, statement completion etc). The weight for this examination is 20%.

Second term is based on a small-group project works planned, conducted and presented by students under faculty supervision. The weight for the project is 10% and students are marked on the basis of their individual contribution and group performance in the whole project.

Final examination (60%) consisting of written part (50%) similar to the mid-year examination but covers all topics taught during the academic year. This is supplemented by an oral interview (10% of the marks) of each student individually by a committee of 2-3 faculty members using card system of questions.

A student is required to obtain at least 50% of the assigned marks to pass the year, otherwise a re-sit examination is required in September. Failing in the re-sit examination entails the student to repeat the academic year.

3.3.4. Books for fourth year

1. Epidemiology by Gordis.

2. Preventive medicine by Macxy Rosenau.
3. Control of comm. disease by Benensen.
4. Short textbook of preventive medicine by Lucas and Gilles.
5. Introduction to community medicine: PART ONE: Basic Concepts and Methods in Epidemiology and Demography for Medical Students By Omran S Habib.

3.4. Medical Ethics for 4th year medical students

This course is designed to make the medical student familiar with principles of ethics that should be adhered to during medical practice. Areas covered include principles of medical ethics and expected professional behaviours in various situations. Also the course expose the students to situations where critical decision making and decision taking are rather difficult. The course is taught by faculty from various departments but the scientific and administrative management are affiliated to the Department of Community Medicine. Table 10 describes the main topics covered

Table 10: Syllabus of medical ethics

| TOPICS | Hrs |
|---|-----|
| Ethics in general and medical ethics as a subset | 1 |
| Principles of medical ethics: Theoretical background with extensive drawing on justification of teaching ethics | 2 |
| Ethics in International documents | 1 |
| Ethical consideration of Doctors and the community relationship | 1 |
| Ethical consideration in preventive medicine | 1 |
| Medical ethics in historical perspectives | 2 |
| Ethics and research | 1 |
| Doctors and patients | 1 |
| Doctors and colleagues | 1 |
| Ethics in surgical practice | 1 |
| Ethics in Gynaecology and obstetrics | 1 |
| Ethics in Paediatrics | 1 |
| Ethics in Psychiatric practice | 1 |
| Ethical consideration in human reproduction | 1 |

| | |
|--|----|
| Accountability in practicing medicine | 5 |
| Special problems: Dying patients, surgical separation of twins, Abortion, Refusal of necessary treatment | 4 |
| Optional topicsLworkshop | 5 |
| Total | 30 |

Student assessment

The course is compulsory one. A student is required to attain at least 50% of the total 100 marks assigned to the subject. Student are assessed as follows:

First term 10 marks for written test

Mid-year 20 marks for written test

Second term 10 marks for written test

Final written examination with a weight of 60 marks.

Students who fail to attain a minimum 50% are required to do a re-sit examination in September. Failing in this examination entails the student to repeat the academic year.

Books

Medical Ethics by Hamdan TA and others. Basrah. Al-Nakheel Press 2009 (In Arabic).