

Course Specifications of Biostatistics and clinical epidemiology for Master degree in Paediatrics Hepatology

National liver institute

1. Program Title: Master degree in pediatrics Hepatology
2. Minor/major element of the program: minor
3. Department offering the program: Pediatric Hepatology department
4. Department offering the course: Public health and community medicine Department
5. Academic year/level: First part

A- Basic Information

Title: Biostatistics and clinical epidemiology for Master degree in Paediatrics Hepatology

Total hours:

Lectures

Lectures hours44	Practical	Tutorial/clinical	Total hours hours44
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B- Professional Information

1. Course aims:

The aim of this course is to provide the student with the basic biostatistical and epidemiological knowledge and skills essential for the practice of Pediatric hepatology specialty and necessary to participate in community needs assessment and problems solving .

2. Intended Learning Outcomes of Course (ILOs)

a) Knowledge and understanding:

By the end of the course, the Pediatrics post-graduate is expected to be able to:

- a.1 understand principles of medical biostatistics and clinical epidemiology , by being able to :- Indicate elements of health education and nutrition care of Hepatobiliary disease
 - List Pediatrics hepatobiliary screening tests.
 - Identify Risk factors and preventive measures of Hepatobiliary diseases.
 - Being able to select high risk cases.
 - Stress on the importance of referral especially double way referral.
 - Identify the types of study design and selection of suitable design for each subject.

- Appraise the importance of screening and medical statistics.
- Define patterns of care as preventive and curative, and describe the levels of preventive care
- Define data sources for vital statistics
- Define, calculate, and interpret vital rates including fertility, morbidity, and mortality rates—both crude and specific—and be able to compare between populations through the use of adjusted / standardized rates
- Define the screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests
- List at least four types of study designs
- Describe the study design, uses, and limitations
- Explain the usefulness of screening tests, and calculate sensitivity, specificity, and predictive values
- Describe the public health surveillance system and its use in the care of hepatobiliary problems
- Define epidemiologic approaches to measure the occurrence of hepatobiliary disease in children
- Make a decision about the appropriate preventive and control measures related to specific preventable situations
- ethical aspects of medical researchers.

b) Intellectual Skills

By the end of the course, the Pediatrics Hepatology post-graduate is expected to be able to:

- b.1 Interpret data acquired through statistical analysis to solve pediatric hepatobiliary problems.
- b.2 Conduct research studies and / or write a scientific study on a research problem.
- b.3 assess Risk in professional practices in the field of pediatrics hepatology .
- b.4 identify different pediatric hepatobiliary problems and find solutions for them based on proper understanding of epidemiological and biostatistic basis.

c) Professional and Practical Skills:

By the end of the course, the student is expected to be able :

- c.1 Master the basic and modern statistical skills needed for the pediatric hepatology practice.
- c.2 assess methods and tools existing in the area of pediatrics hepatology based on proper understanding of epidemiological and biostatistical basis

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

- d1. Communicate effectively by different types of effective communication .

d2. Use appropriate computer program packages and the internet to serve the development of professional practice

d3. Assess himself and identify his personal learning needs.

d4. Use of different sources for information and knowledge.

d5. Manage time effectively .

d6. Maintain Continuous self-learning.

-3Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Statistical concepts	2	1	
Population and sample	2	1	
Types of data	2	1	
Normal distribution curve	2	1	
Numerical presentation of data	2	1	
Graphical presentation of data	2	1	
Mathematical presentation of data	2	1	
Hypothesis testing	2	1	
Measure of mortality and morbidity	2	1	
Chi-squared test	2	1	
Correlation and linear regression	2	1	
Screening tests	2	1	
Study design	2	1	
Observational studies	2	1	
Experimental studies	2	1	
Research Methodology	2	1	
Bias	2	1	
Epidemiology of some infectious diseases	2	1	
Effect of physical environment on liver	2	1	
Effect of chemical environment on liver	2	1	
Effect of Biological environment on liver	2	1	
Nutrition and liver	2	1	
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4 – Teaching methods:

4.1. Lectures

4.2. Attending and participating in scientific conferences, workshops and thesis discussions. (To acquire the general and transferable skills)

5- Methods of Students assessment:

5.1. Research assignments (to assess intellectual skills & general and transferable skills)

5.2. Final written exam , includes:

- Short essay (to assess knowledge and understanding)

5.3. Final oral exam , includes:

- Structured oral exam (to assess knowledge and understanding)

Assessment Schedule

Assessment 1	Research assignments	Week : 16 - 20
Assessment 2	Final written exam	Week : 22 - 24
Assessment 3	Final oral exam	Week : 22 – 24

Weighting of Assessments

Assessment 1	Research assignments	Formative-only
Assessment 2	Final written exam	70 %(degree from 150)
Assessment 3	Final oral exam	30%(degree from 50)
<u>Total</u>		<u>100 %</u>

6- List of References

6.1- Course Notes

Lecture notes prepared by the staff members in the department.

6.2- Essential Books (Text Books)

1-Maxy-Rosenau Public health and preventive medicine, Prentice – Hall International Inc.

6.3- Recommended Books

1- Dimensions of Community Health, Boston Burr Ridge Dubuque.

2- Short Textbook of preventive and social Medicine. Prentice-Hall International Inc.

3- Epidemiology in medical practice, 5th edition. Churchill Livingstone. New York, London and Tokyo.

6.4- Periodicals, Web Sites, ... etc

1-American Journal of Epidemiology

2-British Journal of Epidemiology and Community Health

3- WWW. CDC and WHO sites

7- Facilities Required for Teaching and Learning

1- Adequate infrastructure:

Including teaching places, comfortable desks, good source of aeration, bathrooms, good illumination, safety and security tools.

2- Teaching tools:

Including screens, computers, data show, projectors, flip charts, white boards video player, digital video camera, scanner, copier, color and laser printer.

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