MEDICINE AND SOCIETY MODULE (FF2613) SESSION 2014/2015

I. DIRECTORY OF TEACHING STAFF (Tel: 03- 9145…..)

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II. INTRODUCTION TO MEDICINE AND SOCIETY II

The module discusses the concept of control and prevention of communicable and non-communicable diseases. Attention is specifically given to the programs and services of disease control that has become the public health problem in Malaysia. This module also introduces basic demography including important statistics, fertility data, population expansion and life table. Basic knowledge on occupational safety and health, as well as hazard assessment and control measures at workplace are also explored. The students will be exposed to the existing occupational safety and health acts and regulations in Malaysia, as well as the occupational accident prevention programs and the occupational injury compensation legislation. This module also introduces the students to the technique of conducting research from proposal preparation and data collection until data analysis and report writing. Basic statistical techniques such as descriptive statistics and inferential statistics will be introduced to the students as they conduct their research.

PRE-REQUISITES

The students should have basic knowledge of medicine and society in Year 1, Semester 2.

III. MODULE OBJECTIVES

By the end of this module, students should be able to:

- recognise basic tools of public health specifically epidemiology, statistics, demography and occupational health.
- recognise basic principles of health services for specific groups of population such as workers, children and mothers.
- conduct research and analyse a data set.

IV. METHODS OF ASSESSMENT

1. Continuous assessment (40%)

i. Mini Test I (20 MCQ-OBA questions) – 10%
ii. Mini Test II (20 MCQ-OBA questions) – 10%
iii. Research Project Presentation and Written Report – 5% + 5%
iv. Online practical sessions via Google Forms – 10%

2. End of Semester Examination (60%)

i. 30 MCQ-OBA Questions
ii. 6 Extended Matching Item Questions (Each theme contain 5 item stems)
iii. 2 Modified Essay Questions

V. RESOURCE MATERIALS

1. Mausner, J.S. & Bahn. 1985. Epidemiology – An Introduction Text. W.B. Saunders Company, Philadelphia.
2. Osman Ali. 1990. Kaedah Epidemiologi, Dewan Bahasa dan Pustaka, Kuala Lumpur.
3. Md. Idris Mohd. Noor. 1997. Asas Statistik Dan Penyelidikan Perubatan. 2nd. Ed. Dewan Bahasa dan Pustaka, Kuala Lumpur.
4. Chan Y.H., 2003-2005. Basic Statistics For Doctors Series. Singapore Medical Journal. Available from http://drtamil.me/ (password yhchan)
    - 101: Data Presentation (June 2003)
    - 102: Quantitative Data - Parametric & Non-Parametric Tests (August 2003)
    - 103: Qualitative Data - Tests of Independence (October 2003)
    - 104: Correlational Analysis (December 2003)
    - 201: Linear Regression Analysis (Feb 2004)
5. Swinscow, T. D. V. 2001. Statistics at Square One. BMJ Publishing Group; 10th edition. Freely available from http://www.bmj.com/collections/statsbk/
6. Blog at http://drtamil.me
7. Facebook Group at https://www.facebook.com/groups/ms2.2014/
8. Slideshare at http://www.slideshare.net/drtamil/

VI. TEACHING-LEARNING TOPICS AND SPECIFIC OBJECTIVES

Concept Lectures

At the end of the lectures, students should be able to:

CL1 Epidemiology in Medicine

- comprehend the concept and definition of epidemiology.
- know the scope and usefulness of epidemiology.
- recognise the development of epidemiology and its role in medicine.
- describe the relationship between agent, host, environment and human in diseases transmission.

CL2 Principles in Control and Prevention of Diseases

- comprehend the definition of diseases prevention, control, elimination and surveillance.
- explain isolation and quarantine.
- discuss the principles of diseases prevention.
- describe methods of control and prevention used for communicable and non-communicable diseases.
- define descriptive epidemiology.
- recognise disease distribution according to people, place and time.
- explain disease distribution by giving certain examples.

CL3 Epidemic Investigation

- differentiate between epidemic and endemic.
- discuss the methods used in epidemic investigation.
- identify the epidemic curve and calculate the attack rate.
- describe the steps in epidemic control measures.

CL4 Disease Surveillance

- comprehend the definition and concept of disease surveillance.
- discuss diseases under the Ministry of Health Surveillance Program.
- outline the International Health Surveillance and role of WHO.

CL5 Disease Epidemiology in Malaysia

- recognise the common diseases in Malaysia.
- explain the trend of communicable and non-communicable diseases in Malaysia.
- identify factors that may influence the trend of communicable and non-communicable diseases occurrence.
- identify the incidence of communicable and non-communicable diseases among multi-racial population in Malaysia.

CL6 Control and Prevention of Non-Communicable Diseases

- describe the principles of non-communicable disease prevention and control.
- outline the prevention programmes carried out by the Ministry of Health, Malaysia.

CL7 Health Statistics and Indicators

- describe health statistics and indicators used by the Ministry of Health, Malaysia.
- explain and suggest mitigation measures that are appropriate according to the indicators.

CL8 Research Methodology – Study Designs

- know how studies are designed, methodology and appropriate statistics methods that can be used in presenting the results of the study.

CL9 Research Methodology – Data Collection

- know different methods of sampling data
- know different methods of data collection
- understand the need for data exploration.

CL10 Principles of Demography

- define the demography, health statistics and important database.
- relate demography and health.
- illustrate the usefulness of demography.
- know the notification system in Malaysia.
- differentiate between fertility and fecundity.
- discuss factors involved in fertility.
- discuss the effect of fertility on population changes.
- measure fertility and problems in measuring it.

CL11 Descriptive Analysis

- identify types of descriptive statistics commonly used in research.
- Able to conduct descriptive analysis.
- differentiate between descriptive and analytic statistics.

CL12 Analysis of Quantitative Data – T-test

- distinguish different types of analysis of quantitative data commonly used in medical research.
- Able to analyse quantitative data using T- test

CL13 Analysis of Quantitative Data – Correlation & Regression

- distinguish different types of analysis of quantitative data commonly used in medical research.
- Able to analyse quantitative data using Correlation & Regression.

CL14 Analysis of Qualitative Data – Chi-Square & Proportionate Test

- distinguish different types of analysis of qualitative data commonly used in medical research.
- Able to analyse qualitative data using Chi-Square & Proportionate Test.

CL 15 Non-Parametric Analysis

- Able to decide when to use parametric and non-parametric analysis
- Able to analyse using different types of non-parametric analysis commonly used in medical research.

CL16 Principles of Occupational Safety and Health

- define occupational safety and health.
- recognise the concept of man and machine interface.
- recognise hazard assessment and control measures at workplace.

Self-Learning Package (SLP)

At the end of the SLP topics, students should be able to:

SLP1. Vaccines and Immunity

- recognise the concept of immunity and immunisation.
- outline the history and type of vaccines.
- identify vaccination programs in Malaysia.

SLP2. Occupational Safety and Health Legislations

- recognise the existing occupational safety and health acts and regulations in Malaysia.
- define occupational safety and accident.
- discuss the occupational accident prevention programs.
- explain the occupational injury compensation legislation.

Practicals

PE1 Control and Prevention of Communicable Diseases

- explain the stages involved in prevention of diseases based on natural history of the disease.
- explain the concept of multi-factorial causes of a disease.
- describe the principle of communicable diseases prevention.
- define isolation, quarantine, prevention and control.
- describe characteristics of prevention and control of certain diseases.

PE2. Screening Test

- define sensitivity, specificity and predictive values.
- explain what is a good screening test.

PS1 Descriptive Statistics

- Preceded by CL 10 Descriptive Analysis.
- identify types of descriptive statistics commonly used in research.
- differentiate between descriptive and analytic statistics.

PS2 Analysis of Quantitative Data – T-test

- Preceded by CL 11 T-test
- identify different types of analysis of quantitative data commonly used in medical research.
- Able to analyse quantitative data using T- test

PS3 Analysis of Quantitative Data – Correlation & Regression

- Preceded by CL12 Correlation & Regression
- identify different types of analysis of quantitative data commonly used in medical research.
- Able to analyse quantitative data using correlation and linear regression.

PS4 Non-Parametric Analysis

- Preceded by CL 13 Analysis of Qualitative Data & CL 14 Non-Parametric Analysis
- Able to analyse qualitative data using Chi-Square & Proportionate Test
- Able to use non-parametric analysis in analyzing data.

PS5 Presentation of Research Findings

- Presentation by students of their research findings.

Mini Tests

Mini Test 1

- Epidemiology

Mini Test 2

- Statistics, Occupational Health & Demography

Problem-Based Learning (PBL)

PBL1. Occupational Injury – An abattoir worker with Leptospirosis infection due to work exposure.

At the end of the PBL topics, students should be able to:

- recognise the importance of epidemiological surveillance activity in prevention of communicable diseases.
- describe the universal precaution practice at workplace.
- recognise the importance of early notification in disease control.

Research Project

At the end of practical and research project sessions, students should be able to:

- develop basic concept of asking and thinking in scientific way.
- gain, manage and analyse research data in such scientific method.

Research Project 1

- determine title, objective, hypothesis and references. Draft research proposal and questionnaire

Research Project 2

- present research proposal to the group and finalise the questionnaire.

Research Project 3

- conduct data collection and key-in data in statistical software.

Research Project 4

- conduct data analysis and prepare for presentation.

Research Project 5 a & b

- present research results and write report.

CONTENT SUMMARY

Teaching-Learning Method	Number of sessions	Duration per session (hours)	Total Contact Hours
Concept Lecture	16	16 sessions X 1 hour	16
Self-Learning Package	2	2 sessions X 1 hour	2
Practical and Research Project	8	6 sessions X 2 hours	14
		2 sessions X 1 hours	
Mini Tests	2	2 sessions X 2 hours	4
Problem-Based Learning	1	1 sessions X 4 hours	4
Total	**29**		**40**