

Year 02 Semester 01 module (CLR module 03) Credits: 2

Areas covered – Research Methodology and English language.

	Topic	Learning objectives	Teaching/ Learning activity	Department/ teacher	Duration
1	1. What is research?	1.1 To define "medical research". 1.2 To study the history of medical research	lecture	Community Medicine/PVRK	01 hour
2	2. Scope of medical research	2.1 To study the purposes of doing research in the field of health & medicine 2.1 to learn the "Scientific basis of decision making" 2.3 To learn about the different areas of research (within the medical field)	lecture	Community Medicine/PVRK	01 hour
3	3. Steps in the development of a research protocol	3.1 To analyze the common health / medical problems seen in hospitals & community critically. 3.2 To learn the criteria for prioritizing the problems correctly. 3.3 To learn the important components/steps in a research protocol.	lectures	Community Medicine/PVRK	2 hours
4	4. Literature review	4.1 To describe the reasons for reviewing available literature and other information. 4.2 To describe the resources that are available for carrying out such a review. 4.3 To develop skills to prepare index cards or computer entries that summarize important information obtained from literature. 4.4 To prepare a review of literature relevant to the research proposal	lecture and exercise done during the SGL time.	Community Medicine/PVRK	01 hour

5	5. Formulation of research objectives	5.1 To state the reasons for writing objectives. 5.2 To define and describe the differences between general and specific objectives. 5.3 To define the characteristics of research objectives.	lecture	Community Medicine/PV RK	01 hour
6	6. Reference writing	6.1 To learn the standard methods used in writing references.	lecture	Community Medicine/PV RK	01 hour
7	7. Frequency measuring techniques in health and medicine.	7.1 To study the basic frequency measuring methods (ratio, proportion and rates) and develop skills to use them. 7.2 To define what is point and period prevalence, & cumulative incidence and incidence density and develop skills to calculate them.	Lecture followed by practical exercises.	Community Medicine/PV RK	02 hours
8	8. Introduction to research methods in health and medical sciences.	8.1 To study the dynamics of health / medical research. 8.2 To classify the common research methods used in health and medical sciences.	lecture	Community Medicine/PV RK	01 hour
9	9. Descriptive studies	9.1 To study the basic structure, types, analysis, advantages, disadvantages of descriptive studies. 9.2 To learn the use of descriptive data to develop hypothesis for an analytical studies.	lecture followed by practical exercise.	Community Medicine/PV RK	02 hours.
10	10. Observational analytical studies	10.1 To study the different types of observational analytical studies and their basic structures. 10.2 To learn basic steps of developing a cohort	lectures followed by practical exercises.	Community Medicine/ PVRK	04 hours

		<p>study and develop skills to analyze cohort data.</p> <p>10.3 To learn advantages and disadvantages of using cohort study designs.</p> <p>10.4 To learn basic steps of developing a case control study and develop skills to analyze case control data.</p> <p>10.4 To learn advantages and disadvantages of using case control study designs.</p>			
11	11. Experimental study designs	<p>11.1 To study the basic structures of experimental study designs.</p> <p>11.2 To learn about the differences, advantages and disadvantages of using therapeutic and preventive trials.</p> <p>11.3 To learn, what is randomization, purpose and technique of doing a good randomization.</p> <p>11.4 To study the purpose and technique of blinding in experimental studies, the their limitations.</p> <p>11.5 To learn the common limitations associated with experimental study designs in the field of health & medicine.</p> <p>11.6 To learn the important phases of a standard drug trial.</p>	lectures	Community Medicine/PV RK	02 hours
12	12. Introduction to errors in health / medical research	<p>12.1 To study the classification of different types of errors in research and their adverse effects on research conclusions.</p> <p>12.2 To learn about the role of chance in research, its effects and control measures.</p>	Lecture followed by practical exercises.	Community Medicine/PV RK	03 hours

		<p>12.3 To study the two types of systematic errors, and their control measures.</p> <p>12.4 To learn about the study errors due to confounding and effect modification and their control measures.</p> <p>12.5 To develop skills to identify and assess the confounding and effect modification in research studies.</p>			
13	13. Validity of results of a research	<p>13.1 To define the terms validity and reliability.</p> <p>13.2 To classify and understand the importance types of validity discuss in the field of research.</p> <p>13.3 To study the measures used to improve the validity of a research study.</p> <p>13.4 To study the uses of sensitivity, specificity. positive predictive value and negative predictive values, to evaluate the criterion validity of diagnostic and screening tools.</p>	lectures followed by practical exercise	Community Medicine/PV RK	02 hours
14	14 Reliability of results of a research.	<p>14.1 To learn the factors which determine the reliability of a study results.</p> <p>14.2 To study the measures taken to improve the reliability of measurements.</p> <p>14.3 To understand the relationship between different types of study errors and level of validity and reliability.</p>	lectures followed by practical exercise	Community Medicine/PV RK	01 hour
15	15 Causation in clinical and epidemiological research.	<p>15.1 To learn the criteria used to judge the cause effect relationship in analytical studies.</p>	lectures	Community Medicine/PV	01 hour

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16	16 Data collection techniques	16.1 To learn about the different data collection techniques used in research. 16.2 To study the advantages and disadvantages of each method while using as a research tool.	lecture	Community Medicine/PV RK	01 hour
17	Tutorials	How to write a research protocol problem analysis and study designs	group discussions	Community Medicine/PV RK	02 hours
18	Tutorials	errors, validity & reliability in research	group discussions	Community Medicine/PV RK	02 hours
19	English Language	To learn the use of passive voice, simple present tense, sequence markers, explanation, presentation	Describing a process Group work	ELTU/Staff of ELTU	01 hour
		To learn how to do group work, pair work, discussion, presentation, & role play	Communication through student role play	ELTU/Staff of ELTU	02 hours
		To learn about writing a good essay, use of simple present, simple past and future tenses.	process writing/essay writing – group work	ELTU/Staff of ELTU	03 hours
		To learn about the use of 'wh' questions, discussing, questioning and answering	Pair work	ELTU/Staff of ELTU	01 hour
		To learn analysis, discussion and expressing ideas	Poem- group/pair work	ELTU/Staff of ELTU	01 hour
		To learn how to express ideas, discussion, analysis	Group work	ELTU/Staff of ELTU	02 hours
		To develop interactive skills, asking questions, expressing ideas	Pair work	ELTU/Staff of ELTU	01 hour
		To learn how to point out the importance of the	Debate	ELTU/Staff	01 hour

	topic, define terms, use examples and statistics to support/oppose the topic, direct constructional arguments for/against the issues given		of ELTU	
	To learn summarizing and writing skills	Summarizing: interpretation, critiquing, paraphrasing- pair/individual work	ELTU/Staff of ELTU	02 hours
	To learn how to listen, recall, speech communication, presentations	Group / individual work	ELTU/Staff of ELTU	01 hour

Evaluation

Examination type	Number of questions	Duration	Credits
Structured questions	04	90 minutes	02
essay type question	01	30 minutes	
	05	02 hours	