

St.James College of Pharmaceutical Sciences St.James medical Academy River Bank, Chalakudy			
Programme:	pharmd	Sem.:	fifth
Name of Course: (Subject)	Pharmacoepidemiology and pharmacoeconomics	Course Code:	
Teaching faculty of the course	Dr.arathy joy Dr.alfet raju anthraper		

### **Summary of the Lecture Plan**

Topic	Lectures	Hours
Pharmacoepidemiology	Origin and evaluation of pharmacoepidemiology	1
	need for pharmacoepidemiology	1
	aims and applications.	1
	Definition and scope	
Measurement of outcomes in pharmacoepidemiology	Outcome measures	4
	medication adherence measurement	1
	drug use measures	4
Concept of risk in pharmacoepidemiology	Measurement of risk	1
	attributable risk	1
	relative risk	1
	time-risk relationship	1
	odds ratio	1
Pharmacoepidemiological methods	Drug utilization review, case reports, case series,	6
	surveys of drug use, cross – sectional studies,	4
	cohort studies, case control studies, case –cohort	6
	Studies, meta – analysis studies, spontaneous	4
	reporting, prescription event monitoring and	2
	record linkage system.	2
Sources of data for pharmacoepidemiological studies	Ad Hoc data sources	4
	automated data systems	4
Selected special applications of pharmacoepidemiology	Studies of vaccine safety	4
	hospital pharmacoepidemiology,	4
	pharmacoepidemiology and risk management	4
	drug induced birth defects	4
Pharmacoeconomics:	Definition	1
	history	1
	needs of pharmacoeconomic evaluations	1
	Role in formulary management decisions	1
Pharmacoeconomic evaluation	Outcome assessment	1
	types of evaluation	1
	Cost – minimization	4

	cost- benefit,	4
	cost – effectiveness	4
	cost utility	4
Applications of Pharmacoeconomics	Software	6
	case studies	4

**Major issues or Core aspects to be addressed/ covered:**

<b>Pharmacoepidemiology</b>
Definition and scope, Origin and evaluation of pharmacoepidemiology, need for pharmacoepidemiology, aims and applications.
<b>Measurement of outcomes in pharmacoepidemiology</b>
Outcome measure and drug use measures: Prevalence, incidence and incidence rate.
Monetary units, number of prescriptions, units of drugs dispensed, defined daily doses, prescribed daily doses, medication adherence measurement.
<b>Concept of risk in pharmacoepidemiology</b>
Risk, harm, absolute risk, attributable risk, relative risk, odds ratio, time-risk relationship
<b>Pharmacoepidemiological methods</b>
Definition, advantages, disadvantages, methodology, applications, types and examples of articles published in literatures of Drug utilization review, case reports, case series, surveys of drug use, cross sectional studies, cohort studies, case control studies, case – cohort studies, meta – analysis studies, spontaneous reporting, prescription event monitoring and record linkage system.
<b>Sources of data for pharmacoepidemiological studies</b>
Definition, advantages, disadvantages, methodology, applications, types and examples of articles published in literatures of Ad Hoc data sources and automated data systems.
<b>Selected special applications of pharmacoepidemiology</b>
Definition, advantages, disadvantages, methodology, logical reasons, solutions and Applications of Studies of vaccine safety, hospital pharmacoepidemiology, pharmacoepidemiology and risk management, drug induced birth defects.
<b>Pharmacoeconomics</b>
Definition, history, needs of pharmacoeconomic evaluations Role in formulary management decisions, different types of costs, outcomes.
<b>Pharmacoeconomic evaluation</b>
Outcome assessment, Definition, advantages, disadvantages, methodology, applications, types and examples of articles published in literatures of Cost – minimization, cost-benefit, cost – effectiveness, cost utility.
<b>Applications of Pharmacoeconomics</b>
Definition, advantages, disadvantages, methodology, applications, types and examples

of articles published in literatures of Software and case studies.

### Sample Questions

Pharmacoepidemiology
Explain the origin and evolution, need of pharmacoepidemiology
What are the aims and applications of pharmacoepidemiology
Define pharmacoepidemiology and its scope.
Measurement of outcomes in pharmacoepidemiology
Enumerate the outcome measures and its applications
Explain the outcome measures using suitable equations
Describe the drug use measures using suitable equations
Define medication adherence and the methods used.
Narrate on the statistical methods used in pharmacoepidemiology
Concept of risk in pharmacoepidemiology
Define risk and harm with suitable examples
Explain different types of risk using tables and equations
Write on prevalence and its types.
Narrate on odds ratio
Describe time-risk relationship.
Pharmacoepidemiological methods
Definition, methodology, advantages, disadvantages, applications, types of Drug utilization review
Definition, methodology, advantages, disadvantages, applications, types of case reports
Definition, methodology, advantages, disadvantages, applications, types of case series
Definition, methodology, advantages, disadvantages, applications, types of surveys of drug use
Definition, methodology, advantages, disadvantages , applications, types of cross - sectional studies
Definition, methodology, advantages, disadvantages, applications, types of cohort studies
Definition, methodology, advantages, disadvantages, applications, types of case control studies
Definition, methodology, advantages, disadvantages, applications, types of case -cohort studies
Definition, methodology, advantages, disadvantages, applications, types of meta analysis studies
Definition, methodology, advantages, disadvantages, applications, types of spontaneous reporting

Definition, methodology, advantages, disadvantages, applications, types of prescription event monitoring
Definition, methodology, advantages, disadvantages, applications, types of record linkage system
Differentiate between cohort and cross sectional studies
Differentiate between case control and case –cohort studies.
Sources of data for pharmacoepidemiological studies
Definition, methodology, advantages, disadvantages, applications, types of Ad Hoc data sources
Definition, methodology, advantages, disadvantages, applications, types of automated data systems.
Selected special applications of pharmacoepidemiology
Definition, advantages, disadvantages, methodology, logical reasons, solutions and Applications of Studies of vaccine safety, hospital pharmacoepidemiology, pharmacoepidemiology and risk management, drug induced birth defects.
Explain Studies of vaccine safety
Describe hospital pharmacoepidemiology
Narrate on drug induced birth defects
Briefly describe the pharmacoepidemiology and risk management
Pharmacoeconomics
Explain the origin and evolution, need of Pharmacoeconomics
What are the aims and applications of Pharmacoeconomics
Define Pharmacoeconomics and its scope
Explain the different types of costs, outcomes
Explain the role in formulary management decisions.
Pharmacoeconomic evaluation
Definition, advantages, disadvantages, methodology, applications, types and examples of articles published in literatures of Cost – minimization, cost-benefit, cost – effectiveness, cost utility.
Applications of Pharmacoeconomics
Definition, advantages, disadvantages, methodology, applications, types and examples of articles published in literatures of Software and case studies.