

## QUESTION BANK

### PHARMACOEPIDEMIOLOGY & PHARMACOECONOMICS

#### LONG ESSAYS 10 MARKS

1. Define risk & enlist the various factors influencing risk in pharmacoepidemiology. Explain relative risk and Odd's ratio with suitable examples.
2. What is bias. Explain the different types of bias in pharmacoepidemiology with examples.
3. What is medication adherence. Explain the methods used to assess medication adherence.
4. Identify and explain the two major pharmacoepidemiological models used to test the relationship between drug exposure and patient outcomes.
5. Explain the applications of pharmacoeconomics.
6. Define DUE. Explain the steps involved in a DUE and mention the pharmacist role in DUE cycle.
7. Explain the merits and demerits of Cohort and case controlled study.
8. Define pharmacoepidemiology and explain history and scope of pharmacoepidemiology.
9. What is cost utility analysis. Explain with suitable examples how the outcome measured using cost utility analysis.
10. What is cost effective analysis. Explain with suitable examples how the outcome measured using cost effective analysis.
11. Explain criteria for causal nature of an association in pharmacoepidemiology study.
12. Define pharmacoepidemiology. Explain case control and cohort studies with suitable examples.
13. Explain in detail the measurement of outcomes in PE studies and explain in detail the drug use measures?
14. Explain in detail the concept of risk and measurement of risk of an ADR with respect to
15. Attributable risk                      Relative risk      Time risk relationship      Odds ratio
16. Explain in detail the methods of Pharmacoeconomic evaluation. (a) Cost of illness evaluation. (b) Cost of minimization analysis. (c) Cost of benefit analysis. (d) Cost effective analysis. (e) cost utility analysis
17. Explain in detail the cohort studies in Pharmacoepidemiological study designs and explain in detail the cohort classification?
18. Define record linkage system and explain the process of record linkage system and also explain the probabilistic and deterministic approach in record linkage system?
19. Define Pharmaco-economics and write the applications of Pharmacoeconomics and explain the types of Pharmacoeconomic evaluations. a) CMA b) CBA c) CEA d) CUA?
20. What is bias? Explain the different types of bias with examples in pharmacoepidemiology?
21. Define DUE. Explain the steps involved in a DUE and mention the pharmacists role in DUE cycle.
22. Explain the merits and demerits of cohort and case controlled study.
23. Explain and mention merits and demerits of cohort and case-control studies.(2)
24. Define DUE. Explain the steps involved in a DUE and mention the pharmacists' role in DUE study.
25. Identify two major pharmacoepidemiological models used to test the relationship between drug exposure and patients outcomes and explain
26. Explain few important pharmacoepidemiological studies involving drug induced birth defects.

## SHORT ESSAYS 05 MARKS

1. Explain the different types of cost in pharmacoeconomic study.
2. What is Markov model. Explain with examples.
3. Describe studies of vaccine safety.
4. Explain the steps involved in cost minimization analysis study.
5. Explain the role of pharmacoeconomics in formulary management.
6. Explain the factors to determine cost of illness study.
7. How is confidence interval measured for an odds ratio.
8. Explain any three important methods of determining medication adherence.
9. What is Markov model. Explain the features.
10. What is decision tree. With an example explain the use of decision tree in clinical decision analysis.
11. Describe the steps involved in formulating a study decision in pharmacoepidemiology.
12. What are the requirements of an ideal database. Write the strength and weakness of automated database.
13. Identify two common statistics used to describe the relationship between drug exposure and outcomes.
14. Explain CMA and give its applications.
15. Explain the benefits and limitations of a automated database.
16. Describe a typical DUE cycle.
17. Write a note on prescription event monitoring.
18. Explain the different types of cost in pharmacoeconomic study.
19. Explain Markov model with a suitable example.
20. Define a Cohort study with an example.
21. Define spontaneous reporting system.
22. Write a note on studies on vaccine safety.
23. Discuss the applications of pharmacoeconomics.
24. What are meta analysis models. Give examples with strengths and weakness.
25. Explain different types of costs in pharmacoeconomic study.
26. Explain the types of errors that can occur in a pharmacoepidemiological study.
27. What are the steps involved in formulating a study design in pharmacoepidemiology.
28. Explain methods, advantages and disadvantages of cross sectional study.
29. Explain the significance of relative risk and attributable risk.
30. Explain few important pharmacoepidemiological studies involving drug induced birth defects
31. Write a note on case reports with its advantages and disadvantages?
32. Write a note on case series with its advantages and disadvantages?
33. Explain Multi Attribute Utility Theory (MAUT) and System of Objectified Judgement Analysis (SOJA)?
34. Explain in detail various costs involved in acquisition of health care facility
35. What are the possible outcomes of a well-defined pharmacoeconomic study and what are the steps involved in planning a pharmacoeconomic study with pharmacoeconomic evaluation?

36. Define drug formulary? Explain various parameters which are analysed in formulary decision making process
37. What are the general operational principles for conducting an ad-hoc study?
38. Define: a) Attributable risk b) Relative risk c) Odds ratio?
39. Define pharmacoepidemiology and explain the difference between PE and CP?
40. Explain the potential contributions of PE?
41. Explain the overview of scientific method to investigate a research question along with three stage process?
42. Explain in detail the types of errors one can make in performing a study?
43. Explain the approaches to controlling confounding variables?
44. Explain the criteria for causal nature of an association?
45. Give the advantages and disadvantages of epidemiologic study designs?
46. Explain in detail case reports?
47. Explain in detail case series?
48. What is analysis of secular trends on ecological studies?
49. Explain case control studies?
50. Explain cohort studies?
51. Compare between case control and cohort studies?
52. Explain randomised clinical trial?
53. Enlist the national and international post marketing safety databases?
54. What are reporting ratios?
55. Explain signal detection and approach for detecting signals from a post marketing safety database?
56. Explain about national pharmacovigilance system?
57. Explain the strengths and limitations of post marketing safety reporting system?
58. Define Odds ratio and data mining?
59. Explain about the claims and other administrative database?
60. What are the strengths and weakness of computerised database?
61. What are MRDBs?
62. What are electronic medical records (EMRs)?
63. Discuss the health maintenance organisations/ health plans?
64. Enlist the current and past multisite multiproject research programs within HMORN?
65. Explain about Cancer research network (CRN), Cardiovascular research network (CVRN), Vaccine safety database (VSD)? Explain the data structure of Medicaid database?
66. What are the strengths and weakness of Medicaid, Medicare, and department of Veterans Affairs?
67. Explain the prescription drug database in Canadian provincial database?
68. Explain record linkage, patient router files in pharmacy based medical record linkage system?
69. Define Ad-Hoc studies and enumerate the strength of Ad-Hoc studies?
70. What are the essential steps to be taken prior to selection of a design for in ad-hoc studies?
71. Explain protocol development in ad-hoc studies?
72. Explain the three key aspects in set up of ad-hoc studies?
73. What are the operational principles in conducting PE trend studies
74. Explain the different types of cost in a pharmacoeconomic study.
75. What is Markov model? Explain with examples.
76. Describe studies of vaccine safety.
77. Explain the steps involved in Cost Minimisation Analysis Study.
78. Explain the role of pharmacoeconomics in formulary management.
79. Explain the factors to determine cost of illness study.

80. How is confidence interval measured for an odds ratio?
81. Explain any three important methods of determining medication adherence.
82. Describe cohort study with an example.
83. Explain the strength and weakness of automated databases
84. Write a note on studies of vaccine safety.
85. Describe a typical DUE cycle
86. Give the strengths and weakness of meta-analysis
87. Explain the various measurements of outcome in pharmacoepidemiology study.
88. Identify 2 common statistics used to describe the relationship between drug exposure and outcomes.
89. What are the ideal requirements of ideal databases? Write the strengths and weakness of automated databases.
90. Describe a case control study. Give its advantages and limitations
91. Describe spontaneous reporting systems
92. Write about prescription even monitoring
93. What are meta-analysis models? Give examples
94. Describe different type of error that occur in pharmacoepidemiological study?

## SHORT ANSWERS 02 MARKS

1. Define prevalence.
2. What is signal generation. Explain its significance.
3. What is outcome research.
4. Name four computerized databases used for pharmacoepidemiological research.
5. What is willingness to pay.
6. Mention the limitations of pharmacoeconomic study.
7. What is case series.
8. Define sensitivity analysis.
9. Define attributable risk.
10. Define pharmacoeconomics and outcome research.
11. Define spontaneous reporting systems.
12. What is QALY.
13. Give advantages of Cohort study.
14. What is ICER and ACER.
15. List meta analysis models.
16. Define prevalence and incidence.
17. Define “Defined daily dose” and “Prescribe daily dose”.
18. Give examples of intangible cost involved in pharmacoeconomic study.
19. Define monetary units.
20. Explain confounding.
21. What is record linkage system.
22. Give the applications of cost benefit analysis.
23. Define term outcome research.
24. List out steps involved in creating a study design for pharmacoeconomic study.
25. What are ad-hoc data sources.
26. Explain selection bias.
27. What is case report. What are limitations.
28. What is opportunity cost.
29. What is the need of post marketing surveillance.
30. Define attributable risk?
31. Define relative risk?
32. Define time risk relationship?
33. Define odds ratio?
34. Define outcomes research Cost Consequences.
35. Define incidence, prevalence?
36. What is bias? Explain its different types?
37. Write a note on VAERS?
38. Define confounding?
39. Explain QOL and QALY?

40. Give the advantage of cohort study
41. What is outcome research.
42. What is record linkage system
43. Name any 4 computerized data base used in pharmacoepidemiological study
44. What are case series?
45. What are ad hoc data sources?
46. Explain the selection of bias?
47. Define term outcome research?
48. Mention two drug products recalled with associated adverse events
49. What are case reports and give its significant
50. Explain "cofounding"
51. List meta-analysis models
52. List out the purpose of meta analysis
53. Define prevalence.
54. What is signal generation? Explain its significance.
55. What is outcome research?
56. Name four computerised database used for pharmacoepidemiological research.
57. What is willingness to pay?
58. Mention the limitations for pharmaco-economic study.
59. What is case series?
60. Define sensitivity analysis.
61. Define attributive risk?
62. Define pharmaco-economics and outcome research.
63. Explain the potential contributions of PEY studies.
64. Define Ad-Hoc studies and enumerate the strength of Ad-Hoc studies?
65. Explain the need of pharmaco-economics.
66. Write two applications of CMA.
67. Enlist types of errors
68. Define QALY & QOL
69. Define DUE
70. Define risk in PEY.
71. Define vaccine safety.
72. Role of pharmacist in essential drug concept.
73. Write the objectives of pharmacoepidemiology.
74. What are the strengths and weakness of Medicaid and Medicare.
75. Define Pharmaco-economics.
76. Write two applications of Cost of illness analysis.
77. Define case reports.
78. Define cost utility analysis.
79. Define prescribed daily dose.
80. Define time risk relationship.
81. Define hospital pharmacoepidemiology.
82. Write a note on rational use of drugs.
83. Write the advantages of PEY studies.
84. What are the strengths and weakness of computerised database.
85. Write the aims of pharmaco-economic studies.
86. Write the applications of cost utility analysis.
87. What is the significance of post marketing surveillance?

88. Define direct costs
89. Define DDD.
90. Enumerate the difference between relative risk and attributable risk.
91. Enlist two birth defects.
92. What do you mean by essential drug list.