

系所組別： 公共衛生研究所乙組一般生、在職生

考試科目： 流行病學

考試日期：0220，節次：3

※ 考生請注意：本試題 可 不可 使用計算機 請勿在本試題紙上作答，否則不予計分
是非題共 50 題，每題 2 分，答錯倒扣 2 分，未答者未得分也不倒扣。

1. An accurate and sensitive measurement is always a required auxiliary hypothesis for an empirical study.
2. In a series of 3 studies, although all of them use the same criteria for carpal tunnel syndrome, they come up with different sensitivities as follows: 0.60, 0.40, 0.70. The major reason for such discrepancies is different samples.
3. If A_1, A_2, \dots, A_n are true, then B is true. Suppose we have found B to be false, then all the statements A_1, A_2, \dots, A_n are false, as well.
4. If a health care worker with needlestick injury 2 days ago is found to have a positive anti-HIV today, it cannot be considered as resulting from this needlestick.
5. Construct validity is usually formulated from a qualitative study and verified with factor analysis to determine if the latent factors exist.
6. A confounder must be a causal determinant for the outcome under study.
7. A socio-behavioral measurement is by itself a test of the original theoretical construct. Thus, a successful falsification in an empirical study can be attributed to either error in measurement or the substantive theory.
8. In the 21 century, infectious diseases epidemiology will become less important as almost all such diseases will be under control.
9. Because the measurement of etiological agent will provide scientific basis for proactive prevention of diseases, epidemiology must include such methods.
10. One must understand the detailed mechanism of an etiologic agent and its pathophysiology in order to implement effective prevention. Thus, epidemiological studies will also focus on details of different major determinants for the disease.
11. An epidemiological study can involve into health policy decision making through measurement of quality of life and survival.
12. Conventional epidemiology uses the occurrence of illnesses as the major outcome, but current outcome studies measure quality of life and survival and their integration to evaluate the effectiveness.
13. Basic concepts and principles of epidemiological research are quite different from those of other natural sciences.
14. A limitation of conjecture and refutation is that one can only consider hypotheses that one can imagine. If the true etiological agent is not included in one's list of hypotheses, then one may end up with no answer after refuting all proposed hypotheses.
15. One can never be sure that a theory will be forever true even after one thousand times of refutation tests

(背面仍有題目,請繼續作答)

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16. In an observation of human population, one easily invokes some auxiliary hypothesis, which may not be highly corroborated, because conducting a strict experimentation on human may not be ethical.
17. Inductive reasoning guarantees that if the premise is true, then the statement that follows should be also true.
18. With a verificationist's attitude, one tends to only see facts which one expects and often ignores any fact contradictory to the favorite hypothesis. As a result, one is more liable to believe a hypothesis that may in fact be false.
19. Mill's rules of induction can be summarized as simply based on a rule of consistency.
20. Methods of induction are rules for proposing hypotheses or explanation only, and there is no guarantee that the proposed hypothesis is true.
21. One's attempts to refute a hypothesis should aim to obtain more direct relevance to the hypothesis, expand the hypothesis' range of consistency in time and space, and equally challenge alternative hypotheses. Then, a failure to refute will more likely corroborate the primary hypothesis.
22. One can never be sure that a theory will be forever true even after one thousand times of empirical tests.
23. In public health decision-making, subjective judgments are frequently involved.
24. In general, the more specific a cause is defined, the higher likelihood that the prevention can be achieved.
25. Mycobacterium tuberculosis is a sufficient cause for pulmonary tuberculosis.
26. When the sample size is large (e.g. >500), then a p-value > 0.10 is a strong refutation.
27. If the sample size is not big (e.g. < 50), then chance cannot be completely ruled out.
28. The principle of consistency was almost equivalent to a necessary criterion for causal inference. But since one frequently must invoke less corroborated auxiliary hypotheses in human observational studies, one often ends up with a doubtful conclusion.
29. If the strength of association is 2.5 in terms of rate ratio, then we can conclude that the association is probably causal.
30. If a dose-response relationship exists between an exposure and a disease, then the association is causal.

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31. To obtain an objective decision on causality, an expert committee should take a refutational attitude and engage in full and comprehensive communication, in which the utility of different decisions had better be brought out for discussion.

32. Frequencies of different traffic injuries in May of 2005 of city X were summarized as follows:

Types of traffic injuries	No. of death	Proportion(%)
Motorcycle	30	60
Passenger car	10	20
Bicycle	2	4
Pedestrian	3	6
Truck and others	5	10
Total	50	100

This table shows bicycles are the least dangerous because they produce the lowest percentage of mortality.

33. Induction time of a disease is always shorter than or equal to the latency period of that disease.

34. Odds ratio can only be interpreted as a rate ratio under case-control design.

35. Re-infection rate of tuberculosis should be stated with a specified time unit, otherwise it cannot be compared between more than two rates.

36. If one has the information of a standard life table for each time period on the life table, then one can calculate the life expectancy for the specific cohort.

37. In a study of lung cancer among asbestos workers, if one has not collected data on smoking, one cannot rule out the possibility of smoking as an alternative cause. But one can try to make some soft inference from information outside of this study.

38. Even if the response rate exceeds 85% or even 90%, one still cannot draw a definite inference on a divorce rate of 10%. Because many people who are divorced might not respond. Thus, the inference also depends on the real incidence rate.

39. In order to conclude that there is no confounding in the causal inference, all determinants of the exposure should be comparable for the exposed and non-exposed.

40. To draw a causal inference, one must first examine if there is any alternative explanation or hypothesis not yet been falsified. If there is any one still left un-refuted, then one should not make a strong conclusion.

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41. Data from a case-control study cannot be used to calculate SMR, because such data do not have the information of population-time at risk.
42. There were 3 SMR (standardized mortality ratio) studies of lung cancer among asbestos workers. The first one, reported from Sweden, had an SMR of 6, the second and third from the U.S. reported SMRs of 3 and 4.5, respectively. One can say that Swedish workers were exposed to a higher concentration of asbestos than those of Americans' because the SMR of Swedish asbestos workers was higher.
43. In follow-up studies, any one fulfills the definition of cohort must be included. And once in the cohort, one must be always in it.
44. Case-control study can be viewed as a follow-up study with the estimation of exposure proportion of population time at risk performed by random sampling and conducted prospectively.
45. An environmental engineering company conducted an environmental impact assessment in Hualein in 1990. They found that respiratory diseases, cancer, cardiovascular diseases and accidents accounted for 15%, 20%, 18% and 16%, respectively, of total mortality in the area. One can conclude that cancer is the number one cause of death and deserves public attention.
46. During 1991-3, some businessmen built a petrochemical complex in the same area. Five years later, respiratory diseases, cancer, cardiovascular diseases and accidents accounted for 12%, 20%, 20% and 18%, respectively, of total mortality. One can conclude that respiratory decreased during the last 5 years.
47. Mortality odds ratio (MOR) is a special case of case-control study with controls selected from some other diseases.
48. The collection of controls in a case-control study can be conducted prospectively, or, in a density sampling style.
49. The sampling procedure for a case-control study should not be related to the exposure of interest.
50. To study the association between diabetes and tuberculosis, one may take all patients visiting out-patient-clinic from the National Cheng Kung University Hospital as a case series, while the controls can be drawn from the next patients without tuberculosis with similar age and gender.