**Epidemiology**

1.  Which epidemiological study allows study of several risk factors for a single disease?

а)  Case – control study\*  
б)  Cohort study

2.  The units of analysis in ecological studies are populations.

а)  False  
б)  True\*

3.  A healthy worker effect is a form of selection bias in cohort occupational studies due to the fact that workers have to be healthy enough to perform their duties thus measurements can show lower morbidity and mortality rates in presumed hazardous working conditions.

а)  True\*  
б)  False

4.  The PAR (population attributable risk) is the measure of:

а)  The amount of disease existing in a population at a certain point in time  
б)  The proportion of the disease in the population due to the exposure\*  
в)  The relative risk of disease occurring due to certain factors

5.  The population at risk of cancer of the cervix is:

а)  The female population between 25 and 75 years of age excluding women who have already had cancer of the cervix or hysterectomy\*  
б)  The total female population between 25 and 75 years of age  
в)  The total population

6.  Improved diagnostic rate of cases increase prevalence rate

а)  False  
б)  True\*

7.  Which of the following statements is not true about rate:

а)  Measures the accurence of some particular event in a population during a given time period  
б)  The numerator is not a component of the denominator\*  
в)  It is a statement of risk of developing a condition

8.  An Odds ratio less than 1.0 indicates:

а)  Positive association, risk factor  
б)  Inverse association, protective factor\*  
в)  There is no association, no effect

9.  Modifiable risk factors for stroke include all of the following, except:

а)  Obesity  
б)  Male gender\*  
в)  Alcohol consumption

10.  Prevalence rate is increased by longer duration of disease

а)  True\*  
б)  False

11.  Risk difference is the measure of:

а)  The relative risk of disease occurring due to certain factors  
б)  The excessive number of diseases in the exposed group, attributable to the exposure\*  
в)  The amount of disease existing in a population at a certain point in time

12.  Person-years is a term used to indicate the sum of the length of time during which each person from the studied population is at risk

а)  True\*  
б)  False

13.  Which of the following studies is more appropriate for studying diseases with long latency period?

а)  Case-control study\*  
б)  Cohort study

14.  Matching is a method for controlling:

а)  Selection bias  
б)  Recall bias  
в)  Confounding\*

15.  Which of the following statements is TRUE for confounding:

а)  Another exposure exists in the study  
б)  It is associated both with the disease and the exposure  
в)  Both of them\*

16.  Loss to follow-up is a problem of:

а)  Cross-sectional studies  
б)  Ecological studies  
в)  Cohort studies\*

17.  Suitable for the study of rare exposure. Determine the type of study.

а)  Case – control study  
б)  Cohort study\*

18.  An error that may occur when on the basis of results for existing link between exposure and disease at the population level we attempt to draw conclusions for such association on individual level.

а)  Biological fallacy  
б)  Ecological fallacy\*

19.  The population at risk of prostate cancer is:

а)  The total population  
б)  The male population over 55 years of age excluding men who have already had prostate cancer\*  
в)  The total male population over 55 years of age

20.  Determimne the type of study that will allow you to test whether disease occurs more frequently in those exposed than in those non-exposed. Determine the type of study.

а)  Case – control study  
б)  Cohort study\*

21.  Which of the following is NOT included in the definition of epidemiology?

а)  The study of how historical medical development has affected current medical practices\*  
б)  The study of factors responsible for illnesses  
в)  The study of the distribution of diseases in populations

22.  Scientists compare the average daily consumption of cigarettes in 28-th European Union countries and incidence of lung cancer. Classify the studies as one of the following types:

а)  Cross-sectional study  
б)  Cohort study  
в)  Case-control study  
г)  Ecological study\*

23.  Risk factor is the probability than an event will occur.

а)  False\*  
б)  True

24.  A cohort study differs from a case-control study in that:

а)  Subjects are enrolled or categorized on the basis of their exposure status in a cohort study but not in a case-control study\*  
б)  Cohort studies are conducted to investigate chronic diseases, case-control studies are used for infectious diseases  
в)  Subjects are asked about their exposure status in a cohort study but not in a case-control study

25.  Can examine multiple effects of a single exposure. Determine the type of study.

а)  Cohort study\*  
б)  Case – control study

26.  In a study of 200 cases of ovarian cancer and 400 healthy controls the investigator found a use of oral contraceptive in 50 of cases and in 20 of the controls. The incidence rate in the exposed group is:

а)  10%  
б)  25%  
в)  Cannot be calculated\*

27.  The proportion of disease in exposed that could be prevented by eliminating the exposure is called:

а)  Risk difference  
б)  Population attributable risk  
в)  Etiological fraction\*

28.  A researcher is interested in knowing how many new cases of the angina developed at First Elementary School in January 2011. Assuming that no children enrolled during that month, and no children moved during that month, which measure of morbidity would be most appropriate in answering this question?

а)  Cumulative incidence\*  
б)  Point prevalence  
в)  Period prevalence  
г)  Incidence rate

29.  In a study of 200 cases of lung cancer and 400 healthy controls the investigator found a use of cigarettes in 50 of cases and in 20 of the controls. The incidence rate in the exposed group is:

а)  10%  
б)  5%  
в)  Cannot be calculated\*

30.  Which of the following Bradford-Hill criteria for causation in epidemiology requires that the established relationship between the risk factor and the disease agrees with the current knowledge of the natural history of this disease?

а)  Consistency  
б)  Coherence\*  
в)  Biological gradient  
г)  Temporal sequence of association

31.  A researcher is interested in recording the number of individuals in a particular geographic region who had a common cold from February to September 2010. Which of the following measures of morbidity would be most appropriate in answering this question?

а)  Period prevalence\*  
б)  Point prevalence  
в)  Incidence density  
г)  Cumulative incidence

32.  One of the fundamental premises underlying the study of epidemiology is…

а)  Disease, illness and ill health are randomly distributed in a population\*  
б)  Disease, illness and ill health are not randomly distributed in a population  
в)  Disease, illness and ill health are randomly distributed only in large populations

33.  British investigators conducted a study to compare measles-mumps-rubella (MMR) vaccine history among 1,294 children with autism and 4,469 children without such disorders. (They found no association.) This is an example of which type of study?

а)  Case-control\*  
б)  Experimental  
в)  Cohort  
г)  Clinical trial

34.  OR (odds-ratio) is appropriate measure in:

а)  Cross-sectional study  
б)  Case-control study\*  
в)  Cohort study

35.  The units of analysis in ecological studies are individuals:

а)  False\*  
б)  True

36.  Proceeds from cause to effect. Determine the type of study.

а)  Case – control study  
б)  Cohort study\*

37.  In which type of study it is difficult to establish the temporal relationship between exposure and disease?

а)  Case – control study\*  
б)  Cohort study

38.  The proportion of the disease in the total study population that could be prevented by eliminating the exposure is called:

а)  Etiological fraction  
б)  Risk difference  
в)  Population attributable risk\*

39.  An Odds ratio of 1.0 indicates:

а)  There is no association, no effect\*  
б)  Inverse association, protective factor  
в)  Positive association, risk factor

40.  Which type of study is suitable for the study of rare diseases?

а)  Case – control study\*  
б)  Cohort study

41.  Which type of study is usually the first approach to test a hypothesis in epidemiology?

а)  Case – control study\*  
б)  Cohort study

42.  A relative risk less than 1.0 indicates:

а)  Inverse association, protective factor\*  
б)  Positive association, risk factor  
в)  There is no association, no effect

43.  Improved treatment of cases increase prevalence rate

а)  False\*  
б)  True

44.  Which of the following statements describes best the notion of a confounder in epidemiology?

а)  A confounder must be associated only with the disease outcome  
б)  A confounder can be associated with either the exposure or the disease outcome, but does not need to be associated with both  
в)  A confounder must be associated with both the exposure and the disease\*

45.  Which type of study measures the prevalence of disease at a particular moment and the data are collected directly from the study subjects in a short period /point/ of time?

а)  Cross – sectional\*  
б)  Case – control  
в)  Ecological

46.  Representative sample of residents were telephoned and asked how much they exercise each week and whether they currently have (have ever been diagnosed with) heart disease. Which is this study type?

а)  Case-control study  
б)  Cross-sectional study\*  
в)  Cohort study  
г)  Experimental study

47.  Witch analytical study is NOT suitable for studying rare diseases?

а)  Cohort study\*  
б)  Case-control study

48.  Incidence rate is a measure of:

а)  The strength of association between the risk factor and the disease  
б)  The rate of disease occurrence during a period of time\*  
в)  The disease status in a population at a point in time

49.  Which of the following Bradford-Hill criteria for causation in epidemiology requires that exposure must precede outcome?

а)  Coherence  
б)  Consistency  
в)  Temporal sequence of association\*  
г)  Biological gradient

50.  Observational studies:

а)  Determine the effect of a new treatment  
б)  Gather data on existing phenomena without controlling exposures or populations\*  
в)  Test the effect of an intervention on a disease or condition

51.  RR (relative risk) is appropriate measure in case-control studies

а)  True  
б)  False\*

52.  In epidemiology “time at risk” is the time when the person under observation remains disease-free

а)  False  
б)  True\*

53.  A key feature of a cross-sectional study is that:

а)  It is more useful for descriptive epidemiology than it is for analytic epidemiology  
б)  It usually provides information on prevalence rather than incidence  
в)  All of the statements are true\*

54.  Which type of study tests whether the suspected cause occurs more frequently in those with the disease than in those without the disease?

а)  Cohort study  
б)  Case – control study\*

55.  The part of the population which is susceptible to a disease is called:

а)  Exposed group  
б)  Population  
в)  Population at risk\*

56.  Cumulative incidence is a measure of:

а)  The proportion of the disease in the population due to the exposure  
б)  Probability of getting a disease during a period of time\*  
в)  The strength of association between the risk factor and the disease

57.  A relative risk of 1.0 indicates:

а)  There is no association, no effect\*  
б)  Inverse association, protective factor  
в)  Positive association, risk factor

58.  Which type of study measures the prevalence of disease at a particular moment and the data are collected directly from the study subjects in a short period of time?

а)  Ecological  
б)  Cross – sectional\*  
в)  Case – control

59.  Epidemiology is concerned with all of the following, EXCEPT

а)  The causation of diseases  
б)  The effect of historical medical development on current medical practices\*  
в)  The health status of population groups

60.  An Odds ratio of 1.0 indicates a positive association, or an increased risk among those exposed to the factor.

а)  True  
б)  False\*

61.  Knowing the incidence rate and average duration of disease on certain conditions we can calculate:

а)  Risk difference  
б)  Population attributable risk  
в)  Prevalence rate\*

62.  Ecological studies:

а)  Test the effect of an intervention on a disease or condition  
б)  Compare association between exposure and disease in population level\*  
в)  Determine the effect of a new treatment

63.  A relative risk greater than 1.0 indicates:

а)  There is a positive association between the suspected risk factor and the disease\*  
б)  There is no association between the suspected risk factor and the disease  
в)  There is an inverse association between the suspected risk factor and the disease

64.  The proportion of disease in the total study population which is attributable to the exposure is called:

а)  Risk difference  
б)  Etiological fraction  
в)  Population attributable risk\*

65.  The hallmark feature of an analytic epidemiologic study is: (Choose one best answer)

а)  Publication in a peer-reviewed journal  
б)  Statistical analysis using logistic regression  
в)  Use of an appropriate comparison group\*  
г)  Laboratory confirmation of the diagnosis

66.  Which of the following studies is more appropriate for studying rare exposure?

а)  Cohort study\*  
б)  Case-control study

67.  A follow-up study aims to examine whether seventh grade girls whose parents give permission for them to attend sex education lectures will have lower rate of teenage pregnancy in the next 5 years than girls whose parents refuse.  
Determine the study type:

а)  Case-control study  
б)  Cohort study\*  
в)  Cross-sectional study

68.  All of the following is true for the prospective cohort epidemiologic studies EXCEPT for:

а)  Suitable for studying the multiple effects of one exposure  
б)  Suitable for studying rare exposure  
в)  Study groups are selected based on their disease status\*

69.  Which of the following is TRUE for case-control studies?

а)  Study groups are selected based on their disease status\*  
б)  Study groups are selected based on their exposure status  
в)  An incidence measure can be obtained

70.  Odds Ratio indicates how many times the risk of developing the disease by exposed is greater than the risk of developing the same disease by the nonexposed.

а)  True\*  
б)  False

71.  The excessive number of disease cases in the exposed group, attributable to the exposure is measured by:

а)  The odds ratio  
б)  The incidence rate of exposed  
в)  The risk difference\*

72.  Which of the Bradford-Hill criteria for causation in epidemiology requires that the same findings were observed among different populations and different study designs.

а)  Coherence  
б)  Biological gradient  
в)  Temporal sequence of association  
г)  Consistency\*

73. Which epidemiological study provides a direct estimate of relative risk?

а)  Case – control study  
б)  Cohort study\*

74.  The frequency of all current cases /old and new/ existing during a defined period of time is measured by:

а)  Point prevalence  
б)  Incidence rate  
в)  Period prevalence\*

75.  Improved diagnostic facilities decrease the prevalence rate:

а)  False\*  
б)  True

76.  John Snow's investigation of cholera is considered a model for epidemiologic field investigations because it included a:

a)  Spot map  
б)  Comparison of a health outcome among exposed and unexposed groups  
в)  Biologically plausible hypothesis  
г)  Recommendation for public health action

д)  All of the statements are true\*

77.  Which type of epidemiological study involves larger number of subjects? Determine the type of study.

а)  Cohort study\*  
б)  Case – control study

78.  An error that may occur when we attempt to explain variations in population groups on the basis of individual study results.

а)  Biological fallacy\*  
б)  Ecological fallacy

79.  The number of new cases of disease during a specified period of time in the population at risk is measured by:

а)  Incidence rate\*  
б)  Point prevalence  
в)  Period prevalence

80.  A risk factor that can be reduced or controlled by intervention is called:

а)  Secondary risk factor  
б)  Life-style risk factor  
в)  Modifiable risk factor\*

81.  Which type of epidemiological study can show temporal relationship between exposure and disease?

а)  Case – control study  
б)  Cohort study\*

82.  Recall bias mainly is a problem of:

а)  Case-control studies\*  
б)  Ecological studies  
в)  Cohort studies

83.  The Iowa Women's Health Study, in which researchers enrolled 41,837 women in 1986 and collected exposure and lifestyle information to assess the relationship between these factors and subsequent occurrence of cancer, is an example of which type of study?

а)  Clinical trial  
б)  Experimental study  
в)  Case-control study  
г)  Cohort study\*

84.  In the definition of epidemiology, "distribution" refers to the questions:

а)  Why, When, Where  
б)  Who, When, Where\*  
в)  Who, When, Why

85.  An Odds ratio greater than 1.0 indicates:

а)  Inverse association, protective factor  
б)  Positive association, risk factor\*  
в)  There is no association, no effect

86.  Analytic epidemiology is concerned with:

а)  The association between risk factors and disease\*  
б)  Frequency of diseases in population in terms of place, time and person  
в)  The pattern of health events

87.  Incidence rate is increased by longer duration of disease

а)  False\*  
б)  True

88.  The strength of association between the risk factor and the disease is measured by:

а)  Risk difference  
б)  Incidence rate  
в)  Relative risk\*

89.  Which type of epidemiological study cannot directly compute incidence rates?

а)  Case – control study\*  
б)  Cohort study

90.  Period prevalence is a measure of:

а)  The total number of cases during a specified period, divided by the population at risk through the period\*  
б)  The proportion of the disease in the exposed due to the exposure  
в)  The proportion of the disease in the population due to the exposure

91. Which type of epidemiological study proceeds from effect to cause?

а)  Case – control study\*  
б)  Cohort study

92.  Persons diagnosed with new-onset Lyme disease were asked how often they walk through woods, use insect repellant, wear short sleeves and pants, etc. Twice as many patients without Lyme disease from the same physician's practice were asked the same questions, and the responses in the two groups were compared.  
Determine the study type.

а)  Cohort study  
б)  Experimental study  
в)  Case-control study\*  
г)  Cross-sectional study

93.  That part of the population which is exposed to a supposed cause of a disease is called:

а)  Population at risk  
б)  Population  
в)  Exposed group\*

94.  The units of analysis in ecological studies are:

а)  Individuals  
б)  Populations\*  
в)  Populations and individuals

95.  Occurrence of cancer was identified between April 1991 and July 2002 for 50,000 troops who served in the first Gulf War (ended April 1991) and 50,000 troops who served elsewhere during the same period. Determine the study type.

а)  Case-control study  
б)  Cross-sectional study  
в)  Experimental study  
г)  Cohort study\*

96.  Which of the Bradford-Hill criteria for causation in epidemiology requires that change in disease rates should follow from corresponding changes in exposure.

а)  Biological gradient\*  
б)  Temporal sequence of association  
в)  Consistency  
г)  Coherence

97. Which of the following criteria for causation is not among the Bradford-Hill criteria?

а)  Biological gradient  
б)  The parasite can never occur in healty people\*  
в)  Consistency  
г)  Coherence

98. In which type of blinding in clinical trials neither the investigator nor the participant is aware of the group allocation?

а)  Double blinding\*

б)  Triple blinding  
в)  Single blinding

99. In which of the following studies the unit of study ia patients?

а)  Field trials  
б) Community trial  
в)  Randomized control trials\*

100. Which of the approaches to control confounding include measuring the strength of association in well-defined and homogeneous categories of the confounding variable?

а) Stratification\*  
б) Randomization  
в) Restriction

101. Which of the following types of epidemiological studies is related to highest risk of counfounding?

а) Clinical trials  
б) Ecological study\*  
в)  Case-control study

102. Cross-sectional studies can measure:

а) Population attributable risk   
б) Point prevalence rate\*  
в) Period prevalence rate

103. All of the following factors increase prevalence rate EXCEPT for:

а)  Longer duration of disease  
б) In-migration of cases  
в)  High case-fatality rate from disease\*

104. Which of the following factors increase prevalence rate?

а) Improved treatment of disease  
б) Improved diagnostic facilities\*   
в) Out-migration of cases

105. Which of the Bradford-Hill criteria for causation in epidemiology requires that the removal of exposure alters the frequency of disease?

а)  Reversibility\*  
б) Strenght of association  
в) Coherence

106. Which of the following physicians is considered a founder of modern epidemiology because of his study on cholera outbreak in London in 1854?

а)  Richard Doll  
б) John Snow\*  
в)  Bradford Hill

107. Which of the following physicians is famous for his studies on the relationship of smoking and lung cancer among British physicians?

а)  Richard Doll\*  
б) John Snow

в**)  Edward Jenner**

108. Which of the follwoign biases can occur in case-control studies?

а)  Loss to follow-up  
б) Berksonian bias\*

в) Healty worker effect

109. Which of the following indicators gives information about the number of cases of disease among exposed group which is due to the exposure?

а)  Incidence rate of exposed  
б) Relative risk

в)**Risk difference\***

110. Which of the following indicators gives information about the number of cases of the disease among the exposed that could be eliminated if the exposure was eliminated?

а) Population attributable risk  
б) **Risk difference\***

в)Relative risk