

× 1. Which of the following confer(s) passive immunity?

- a) Hepatitis B vaccine
- b) MMR vaccine
- c) Hepatitis B immunoglobulin
- d) Infection with measles virus
- e) Cross placental transfer of maternal antibodies

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

- a) Subjects are enrolled or categorized on the basis of their exposure status in a cohort study but not in a case-control study
- b) Subjects are asked about their exposure status in a cohort study but not in a case-control study
- c) Cohort studies require many years to conduct, but case-control studies do not
- d) Cohort studies are conducted to investigate chronic diseases, case-control studies are used for infectious diseases

3. The most appropriate explanation on "Prevalence rate":

- a) The number of patients who have the disease at a particular time, divided by the population at risk of having the disease at that time.
- b) the number of new cases of a disease in a population over a period of time.
- c) not useful for developing HIV/AIDS control program.
- d) useful for developing Avian flu control program.
- e) not useful for any disease control program.

4. Occurrence in the community of a number of cases of disease that is unusually large or unexpected

- a) Endemic
- b) Epidemic
- c) Pandemic
- d) Infection

5. During the SARS outbreak in Canada there were 80 staff members who were exposed to SARS patients who were hospitalized in the infectious disease unit of a hospital in Toronto. Eight of these staff members developed SARS themselves. The percentage of staff members who developed SARS represents which of the following measures of disease frequency?

- a) incidence rate
- b) attack rate
- c) Prevalence
- d) All of the above

6. The probability of a person's having the disease when the test is positive

- a) Positive predictive value
- b) Sensitivity
- c) Specificity
- d) Negative predictive value

7. In a demographic cycle, the late expanding stage indicates

- a) Decreasing birth rate and decreasing death rate
- b) High birth rate and death rate
- c) Low Birth rate and death rate
- d) Decreasing death rate and stationary birth rate

8. A study is done to examine whether there is an association between the daily use of vitamins C & E and risk of coronary artery disease (heart attacks) over a 10 year period. When subjects who took both vitamins were compared to those who took not vitamins at all, the risk ratio was found to be 0.70. Which of the following is a correct interpretation of this finding?

- a) The incidence of coronary artery disease in those who take vitamins C & E daily is 0.70 (or 70%).
- b) Those who take vitamins C & E daily have 0.7 times the risk of heart attack compared to those who do not take vitamins.
- c) The risk difference in this study is 70 per 100 vitamin users over ten years.
- d) The risk difference in this study is 70 per 100 vitamin users over ten years.

9. If the Relative Risk for the association between a factor and a disease observed in a study of all cases of the disease is equal to or less than 1.0 then:

- a) There is no association between the factor and the disease
- b) The comparison group used was unsuitable and a valid comparison is not possible
- c) There is either no association or negative association between the factor and the disease
- d) The factor protects against development of the disease
- e) Either matching or randomization has been unsuccessful

10. Host-agent-Environment paradigm is more appropriate to be applied for the communicable diseases? True

× 11. Live attenuated vaccines include

- a) Measles, Mumps, BCG, Plague
- b) Measles Mumps. Hepatitis B Varicella
- c) Measles. Mumps. Rubella
- d) Messies Pubella, Hapatse

× 12. Which vaccine is stored in the freezer?

- a) OPV
- b) Measles
- c) DPT
- d) Rubella

× 13. Preferred vaccine in a 12 years old child is:

- a) DT
- b) All of the above
- c) dt
- d) DPT

14. To prevent neonatal tetanus by TT injection during pregnancy is the:

- a) Secondary prevention
- b) Tertiary prevention
- c) Primordial prevention
- d) Primary prevention

15. in the low stationary stage, the main cause of death is

- a) Communicable diseases
- b) Infectious diseases
- c) Diarrheal diseases
- d) Man-made diseases

16. In the definition of epidemiology, “determinants” generally includes all except

- a) Agents
- b) Causes
- c) Control measures
- d) Risk factors
- e) Sources

17. An investigator takes a sample of healthy individuals, record their ongoing solar exposure, and relate that to the subsequent occurrence of skin cancer in the same group.

- a) Case-control study
- b) Ecological study
- c) Cohort study
- d) Cross-sectional study

18. Globalization always affect the health positively **False**

19. Disease control measures are generally directed at all except

- a) Interrupting mode of transmission
- b) Eliminating the host
- c) Eliminating the vector
- d) Reducing host susceptibility
- e) Eliminating the reservoir

20. Prophylactic administration of vit K in breast feeding babies is an example of

- a) Specific protection
- b) Health promotion
- c) Treatment
- d) Rehabilitation

21. The extent to which a test is measuring what it is intended to measure

- a) Reliability
- b) Validity
- c) Sensitivity
- d) Specificity

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

- a) It usually provides information on prevalence rather than incidence
- b) It is limited to health exposures and behaviors rather than health outcomes
- c) It is more useful for descriptive epidemiology than it is for analytic epidemiology
- d) It is synonymous with survey

23. The mortality rate is an indicator of the health of population as:

- a) Points out the poor reporting of deaths and thus the importance of improving statistic methods
- b) Points out success to meet people's health need
- c) It acts as a sensitive measurement of the condition of Sanitation, quality of care and level of education
- d) It is sensitive indicator for population growth
- e) It reveals the cause of death, enabling planning programs to indicate a specific disease

24. The proportion of cases of a specified disease or condition which are fatal within a specified time

- a) Morbidity rate
- b) Case fatality rate
- c) Proportionate mortality
- d) Death rate

25. The epidemiologic triad of disease causation refers to: (Choose one best answer)

- a) Agent, host, environment
- b) Time, place, person
- c) Source, mode of transmission, susceptible host
- d) John Snow, Robert Koch, Kenneth Rothman

26. To control the rising incidence of non-communicable diseases, legislation based on tobacco control will be adopted to prevent onset of the risk behavior

- a) Tertiary
- b) Primary
- c) Primordial
- d) Secondary

27. 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(s) of study?

- a) Experimental
- b) Cohort
- c) Case-control
- d) Clinical trial

28. In the high stable stationary stage, the main cause of death was:

- a) Communicable diseases
- b) Non communicable diseases
- c) Man-made diseases
- d) Chronic diseases

29. Building equal number of hospitals in each district irrespective of population size is equitable. False

× 30. The definition of public health "The art and science of preventing Was given by

- a) J.E. Park
- b) CEA Winslow
- c) Leavell and Clark
- d) Robert Koch

31. Of the following mortality rates, which two use the same denominator? (1) Crude mortality rate (2) Age-specific mortality rate (3) Sex specific mortality rate (4) Race specific mortality rate (5) Cause specific mortality rate.

× 32. The first vaccine developed was against smallpox. **True**

33. among the measurement of examination of state of population health, the most sensitive indicator is

- a) Rate of sickness distal (indirect) indicator
- b) Rate of malnutrition distal (indirect) indicator
- c) Rate of raw mortality distal (indirect) indicator
- d) Rate of hospitalization distal (indirect) indicator
- e) **Infant mortality rate** proximate (direct) indicator

× 33. Of the absolutely protective vaccines.

- a) Polio
- b) Rubella vaccine
- c) **Yellow fever vaccine**
- d) BCG

34. Demography is the scientific study of human population. It focuses it's attention on readily observable human population. There are

- a) Composition of the population
- b) **All of the above**
- c) Distribution of the population
- d) Change in population size

35. All of the following are advantages of the case-control study design except:

- a) This design is less expensive than a cohort study
- b) This design is subject to fewer ethical concerns than a prospective cohort study
- c) This design is more particular for studying rare diseases
- d) It is easier to identify a sufficient number of diseased subjects for this type of study than a con
- e) **This design is less vulnerable to bias than other observational study designs**

36. An occupational safety officer known that the Relative Risk of non-Hodgkin's lymphomas following exposure to particular industrial chemical is 12.5 what he concludes from this information?

- a) The incidence of non-Hodgkin's lymphoma varies among workers exposed to the chemical
- b) is unlikely that the observed association between exposure to the chemical and non-Hodgkin's lymphoma is due to random chance
- c) A worker who must routinely handle large quantities of the chemical in question has a very high probability of developing a malignant lymphoma
- d) A worker who must routinely handle large quantities of chemical is 12.5 times more likely to a malignant lymphoma than a worker who is not exposed to the chemical

37. Which type of measure of disease frequency best describes the percentage of students enrolled in a course who had sore throats on the first day of the semester

- a) AR
- b) Prevalence
- c) RR
- d) Incidence

38. A study starts with 5,000 people. Of these, 125 have the disease in question. What is the prevalence of disease per 1000 people

- a) 0.0025
- b) 25
- c) 250
- d) 0.025

39. A 55-year-old hypertensive patient was admitted to the medical ward with cerebral stroke after treatment he recovered but was unable to move his right lower limb. He was advised to do physiotherapy. This type of assistance is

- a) Specific protection
- b) Health promotion
- c) Prompt treatment
- d) Rehabilitation

40. Host-agent-Environment paradigm is applicable for all types of diseases. False.

41. Acute hemorrhagic conjunctivitis affected a large proportion of population over a wide worldwide geographic area in 1971 and 1981. This spread of the disease is

- a) Epidemic
- b) Endemic
- c) Sporadic
- d) Pandemic

42. Epidemiology is in charge of all the following subjects except

- a) Attack of specific diseases to specific population
- b) The health danger connected with the environmental factors and behavioral factors.
- c) The health state and incidence of a disease
- d) Health policies for health services
- e) Follow up of a disease of specific patient and the result of treatment

43. All of the following statements about the absolute risk of disease are true except

- a) Absolute risk is the underlying rate from which Relative Risk is derived
- b) Absolute risk is the underlying rate from which attributed risk is derived
- c) absolute risk is the probability that a healthy individual will develop the disease during a specified time period
- d) Absolute risk is the ratio of incidence of the disease among those exposed to the relevant risk factor to the incidence of the disease among those which with no such exposure
- e) Absolute risk could be measured by the incidence of the disease

44. Management of deep venous thrombosis to arrest the progression of a disease

- a) Disability limitation
- b) Primordial prevention
- c) Primary prevention
- d) Secondary prevention

45. During the second week of February, 87 persons in a small community (population 460) attended a social event which included a meal prepared by several of the participants. Within 3 days, 39 of the participants became ill with a condition diagnosed as Salmonellosis. The attack rate among participants was

- a) 44.8/100
- b) .45/100
- c) 18.9/100
- d) 18.9/100

46. British investigators conducted a study to compare measles-mumps-rubella (MMR) vaccine history among 1,294 children with pervasive development disorder (e.g., autism and Asperger's syndrome) and 4,469 children without such disorders (They found no association.) This is an example of which type(s) of study?

- a) Case-control
- b) Cohort
- c) Clinical trial
- d) Experimental

47. The Framingham study, in which a group of residents have been followed since the 1950's to identify occurrence and risk factors for heart disease, is an example of which type(s) of study?

- a) Descriptive
- b) Case-control
- c) Prospective
- d) Ecological
- e) RCT

48. The proportion of cases of a specified disease or condition which are fatal within a specified time

- a) Proportionate mortality
- b) Case fatality rate
- c) Death rate
- d) Morbidity rate

49. Type of design where both exposure and disease are determined simultaneously for each subject

- a) Cross sectional study
- b) Case study
- c) Cohort study
- d) Case control study

50. The state of health is a static state and can be viewed as either healthy or diseased:

- a) False
- b) True

51. Neonatal mortality rate for babies

- a) The numbers of deaths of babies till the age of one year out of 1000 live deliveries
- b) The numbers of tables deaths till the age of one year out of all deliveries
- c) The number of deaths of babies till the age of 28 days out of 1000 live deliveries
- d) The number of deaths of babies till the age of 25 days out all infant deaths in the same year
- e) The number of babies till the age of one year who died during the same year

52. Which of the following is a case-control study?

- a) Defining a group of disease-free people by their exposure status and then following up over time to see if they develop a disease or condition.
- b) Analysis of previous research in different places and under different circumstances to permit a hypothesis based on cumulative knowledge of all known factors in the disease
- c) Obtaining histories and other information from a group of known cases and from a comparison group to determine the relative frequency of a characteristic or exposure under study
- d) Study collecting information from individuals to measure prevalence at one point in time
- e) Study of average exposure for a group and a population measure of outcome

53. The purpose is to limit the incidence of disease by controlling causes and risk factors

- a) Primary prevention
- b) Tertiary prevention
- c) Secondary prevention
- d) Primordial prevention

54. The surrounding environment is one of the major determinants of health and ill health of an individual **True**

55. A new screening program was instituted in a certain country. The program used a screening test that is effective in detecting cancer Z at an early stage. Assume that there is no effective treatment for this type of cancer and, therefore, that the program results in no change in the usual course of the disease. Assume also that the rates noted are calculated from all known cases of cancer Z and that there were no changes in the quality of death certification of this disease. What will happen to the apparent incidence rate of cancer Z in the country during the first year of this program?

- Mortality rate will remain constant
- Prevalence rate will increase
- Incidence rate will increase
- Case-fatality will decrease

56. In general, screening should be undertaken for diseases with the following feature(s):

- a) Diseases with a low prevalence in identifiable subgroups of the population
- b) Diseases for which case-fatality are low
- c) Diseases with a natural history that can be altered by medical intervention
- d) Diseases that are readily diagnosed and for which treatment efficacy has been shown to be equivocal in evidence from a number of clinical trials
- e) None of the above

57. Which of the following is not a possible outcome measure that could be used as an indicator of the benefit of screening programs aimed at early detection of disease?

- a) Reduction of case-fatality in screened individuals
- b) Reduction of mortality in the population screened
- c) Reduction of incidence in the population screened
- d) Reduction of complications
- e) Improvement in the quality of life in screened individuals

× 58. Of the highly protective vaccines

- a) Cholera
- b) BCG
- c) Rubella vaccine
- d) Yellow fever vaccine

Q1. The data given in the exercise is not real, it is for an imaginary city in Palestine named as “Beet El Salam” with the total population 160000 inhabitant. The city records for the year 2004 show that, total number of live births is 6400 and the total reported deaths is 800 cases. Among all deaths 128 died during their first year of life.

1. Calculate the crude birth rate for Beet El Salam city. 40 per 1000
2. Can you calculate the crude death rate? If Yes: Calculate the rate and If No: explain why you can't do such calculation. yes, 5 per 1000
3. Calculate infant mortality rate for Beet El-Salam city. What is the importance of IMR? 20 per 1000
4. If you know that 50% of the infant deaths occurred during the first 28 days of life. Calculate both neonatal and post-neonatal mortality rates in Beet El Salam
neonatal mortality rate = 10 per 1000
post-neonatal mortality rate = 10 per 1000

Q3: The table below depicts data on food poisoning outbreak following a back-to-school party attended by 200 medical students.

	Ate food			Did not eat food		
	Ill	Not ill	Total	Ill	Not ill	Totals
Salad	90	30	120	20	60	80
Fish	67	33	100	43	57	100
Totals	157	63	220	63	117	180

1. What is the RR of developing food poisoning after Salad consumption? 3
2. What is the RR of developing food poisoning after eating fish? 1.55

Salad				Fish			
	Ill	not ill			Ill	not ill	
+	90	30	120	+	67	33	100
-	20	60	80	-	43	57	100
	110	90	200		110	90	200

Q4: During examination the blood sugar of above 40 years old healthy individuals we find the followings:

	Diabetic	Non diabetic	Total
Test positive	350	1900	2250
Test negative	150	7600	7750
	500	9500	10000

1. Calculate the sensitivity 0.7
2. Calculate the specificity 0.8
3. Calculate the positive predictive value 0.155
4. Calculate the negative predictive value 0.98

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