

Epi study guide – leon gordis



**ASSIGN
BUSTER**

Reverse Time Order- outcome actually come before the exposure (opposite of hypothesis); the outcome is really the exposure and the exposure is really the outcome.

d. Chance- to occur accidentally, without design, a coincidence

e. Bias- systematic error in design, conduct, or analysis of a study that results in a mistaken estimate

3. 4 enduring epidemiological understandings patterns to their occurrence. These patterns can be identified through surveillance of populations. Examining these patterns of health and disease can help us formulate a hypothesis about their possible causes.

B. A hypothesis can be tested by comparing the frequency of disease in selected groups of people with and without the exposure to determine if the exposure and the disease are associated. When the exposure is hypothesized to have a beneficial effect, studies can be designed in which a group of people is intentionally exposed to the hypothesized cause and compared to a group that is not exposed. When an exposure is hypothesized to have detrimental effect, it is unethical to intentionally expose a group of people. In these circumstances, studies can be designed that observe groups of free living people with and without the exposure. . One possible explanation for finding an association is that the exposure causes the outcome. Because studies are complicated by factors not controlled by the observer, other explanations also must be considered, including chance, bias, confounding and reverse time order.

D. Judgment about whether an exposure causes a disease is developed by examining a body of epidemiological evidence as well as evidence from other scientific disciplines

8 cause-effect criteria questions 1 . What is the strength of association

between the risk factor and the disease? 2. Can a biological gradient be demonstrated? 3. Is the finding consistent?

Has it been replicated by others in other places? 4. Have studies established that the risk factor precedes the disease? 5. Is the risk factor associated with one disease or many different diseases? 6. Is the new finding coherent with earlier knowledge about the risk factor and the disease? 7. Are the

implications of the observed findings biologically sensible? Been produced by controlled administration of the risk factor? 4. Active surveillance a. s when the researcher is actively to collect data for the study 5. Age-adjusted rates a. Eliminate the effects of differences in the age distributions of populations 6. Association a. Towards the null = towards no association 7. Bias a.

Systematic error in design, conduct, or analysis of a study that results in a mistaken estimate of an exposure's effect on the risk of disease 8. Biological gradient/ dose-response relationship 9. Biological sense - Are the implications of the observed findings biologically sensible? If it doesn't make biological sense today, doesn't mean it can't in future 10. Blinding - a. Blind the participants, blind people administering exposures, and even blind assessors evaluating if they do or do not have outcome I.

Other measures, such as mean differences, are used if the data are continuous 39. Measures of statistical stability - P values and confidence intervals are the two main ways to assess the role of chance in epidemiological research. The null P value and 95% confidence interval are most commonly used. 40. Misclassification a. Indifferently misclassification - likelihood that misclassification is equal (if there is an association, you are

less likely to find it) b. Differential misclassification - alters measure of affect

42. National Children's Health Study a.

The National Children's Health Study will examine the effects of the environment, as broadly defined to include factors such as air, water, diet, sound, family dynamics, community and cultural influences, and genetics on the growth, development, and health of children across the United States, following them from before birth until age 21 years b. Cohort study

43. Natural Experiments - natural occurring circumstances in which groups of PI within a population have been exposed to different levels of the hypothesized exposure.

44. Necessary and sufficient a. All people with the ADZ are exposed

45. Not necessary and sufficient a. Those who have the ADZ may or may not be exposed

46. Necessary and not sufficient a. If you have the ADZ you have the exposure; you can have the exposure but the exposure may not be enough for you to get the ADZ

47. Not necessary and not sufficient a. Do not need to have exposure to have outcome, outcome does not mean you have b. XSL could be a cause of ADZ

48. Numerator a. A count

49. Nun Study- a. Retrospective cohort study, 1, 000 nuns participated in the study. 3 of the nuns wrote an autobiography at 22 linguistic in relation to Alchemies.

50. Observational Studies a. An epidemiological study of a natural experiment in which the investigator is not involved other than to count

51. Odds ratio a. Ratio of the probability of the occurrence of an event to that of its nonoccurrence b. $OR = (A/C) / (B/D)$ Students who did not do their homework had an odds of having a cell phone 9 times that of students who did their homework.

52. Outcome - ADZ, caused by exposure

53. P value

54. Passive surveillance is when the researcher relies on the available data for the study