

# [App5hintonn epi2](https://assignbuster.com/app5hintonn-epi2/)

Running head: Epidemiologic Research Potential Biases EPIDEMIOLOGIC RESEARCH POTENTIAL BIASES OR SOURCES OF ERRORS of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Student ID No.: \_\_\_\_\_
Program: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (course or educational curriculum)
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Abstract
Statistics are methodologies usually undertaken to support a certain theory on the basis of samples within a specific population. The process being prepared by a human, it is susceptible of errors or biases. That is the gist of this paper.
Epidemiologic Research Potential Biases or Sources of Errors
Childhood leukemia and pesticides
The potential bias in the cohort study will possibly caused by the given margin of error and the classification of exposure as to high or low. A scenario may come up where the children in the rural areas marked to be with high level of pesticide exposure are living in places with twenty one units or one unit more in order to make it high in exposure. On the other side, let it be presumed that the children in locations described as with low levels of pesticide exposure are staying in a community with nineteen units or one unit below the twenty units mark.
If the margin of error, for instance, is pegged at minus five in the high exposure areas, that will be twenty one units less five units. The result will be a low exposure at sixteen units. Upon the other hand, if the margin of error is assumed at plus five units in the areas with low exposure to pesticide, the result will be a classification of high exposure at twenty four or nineteen plus five. It will therefore be a case of a high becoming a low and a low becoming a high. The allowance for error given here cannot render validity to the result of the sampling.
Margins of error can affect the validity of statistical researches. In the afore-stated situation, the given margin of error seems to be high at plus or minus twelve. Bigger margins such as this one here will more likely be unreliable. (Fontaine, Beth. How to Calculate Margin of Error. eHow. [internet]) The error though will not change the measure of association because the margin is either a plus or a minus.
HIV and sexual partners
In the study of association between patients diagnosed for HIV and the number of their lifetime sexual partners, a confounding factor can result into an error. This is so because it does not automatically mean that if a person has such number of lifetime sexual partners, that will connect to his being HIV positive; hence, there can be no accurate interpretation. (Bias and Confounding. CEM-Research. [internet]) There is another probable variable involved and that is the sex orientations of the partners. Hence, if the diagnosed person is a male and has five straight females as mistresses and sexual partners, there will be no correlation between that and being HIV positive. The perceived error will underestimate the association measure because the interview was made after the concerned were informed of their HIV status which would have made them more defensive than when before the interrogation which circumstance is self-explanatory.
Cancer and timeframe
The research on the effect of exposure to PCBs in the mentioned incidents refers to its association with cancer. Since preliminary findings were to be assessed over a certain period after the study, the ages of the sample population were wanting, thus committing a sampling error or information bias. (Kleinbaum. VALIDITY. 2003. [internet]) The measure of association will remain unchanged because age is a fixed variable that goes with the other sampling data.
Drugs and the assessing doctors
The most likely resulting error here is one of personal bias or prejudice which will overestimate the results according to the assessor's leaning, that is, for the doctor who is working for the pharmaceutical company that manufactures the new drug. The reasons are apparent. (Bias. Dictionary. com. [internet]) Upon the other hand, there can presumably be no bias or statistics error anent the placebo outcomes assessed by a doctor from the local community hospital, an independent and neutral agency. In the latter case, there is no expected bias and thus there can be no criteria relating to the measure of association.
References
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