Epi 3 Check on Learning (COL) Quiz

COL quizzes are *NOT* intended to be extremely challenging. Rather, the goal of COL quizzes are to simply assess students’ basic comprehension of the assigned materials and provide them with feedback early and without high stakes.

# Confounding

| **Q1 Know the Example?**  The relationship between which exposure-outcome pair was the subject of controversy in the field of epidemiology in the 1980s as discussed in this week’s module? | | |
| --- | --- | --- |
|  | Estrogen and Uterine Cancer |  |
| X | Folic Acid Supplementation and Neural Tube Defects | In the introductory video of *Lesson 2: Confounding* in the *Causal Diagrams: Draw Your Assumptions Before Your Conclusions course*, Dr. Harnan discusses confounding in the context of a 1980’s controversy surrounding the effects of low-dose folic acid supplementation on neural tube defects. |
|  | APoE and Alzheimer’s Disease |  |
|  | Mosquitos and Malaria |  |

| **Q2 Backdoor Paths**  Choose the causal DAGs that show a backdoor path between the variables poverty and tuberculosis. | | |
| --- | --- | --- |
|  | A |  |
|  | B |  |
|  | C |  |
| X | D | Lesson 2: Confounding.  A includes only a single path between poverty and tuberculosis, which passes through a crowded living environment. This is not a backdoor path. In B, there is currently no backdoor path between poverty and tuberculosis, but we would open one if we conditioned on BCG vaccination. C includes only a single direct path between poverty and tuberculosis. D includes a backdoor path from poverty to tuberculosis through HIV infection. |

| **Q3 Observational vs. Experimental**  Confounding is much more likely to occur in \_\_\_\_\_\_\_ studies. | | |
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| X | Observational | “Confounding is more likely to occur in observational than in experimental epidemiology studies. In an experimental study (e.g., a clinical trial), the use of randomization reduces the likelihood that the groups under comparison (e.g., exposed/treated and unexposed/untreated) differ with regard to both known and unknown confounding variables. This is particularly true when large sample sizes are involved. Even if the randomization approach is unbiased and the samples are large, however, there may be random differences between the experimental (e.g., vaccinated) and the control (e.g., those receiving placebo) groups, possibly leading to confounding. In an observational prospective study, in addition to random differences between the comparison groups, factors related to the exposure may confound the association under study.”  Szklo, Moyses, Nieto, F. Javier. Epidemiology (pg. 175-176) |
|  | Experimental |  |
|  | Confounding is equally likely to occur in observational and experimental studies. |  |

| **Q4 Identify confounding with stats?**  It is inappropriate to rely on statistical significance to identify confounding. | | |
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| X | True | “It is inappropriate to rely on statistical significance to identify confounding, especially when either the exposure (in case-control studies) or the outcome (in cohort studies) varies markedly according to the confounding variable.”  Szklo, Moyses, Nieto, F. Javier. Epidemiology (pg. 199) |
|  | False |  |

| **Q5 Residual confounding**  Residual confounding occurs when... | | |
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|  | the categories for the confounder controlled are too broad, resulting in an imperfect adjustment. |  |
|  | some confounding variables remain unaccounted for. |  |
|  | the variable used for adjustment is an imperfect marker for the true variable one wishes to adjust for. |  |
| X | All of the above | All of these are reasons why residual confounding may occur. For more information, read pg. 196 of Szklo, Moyses, Nieto, F. Javier. Epidemiology. |