6EB37875

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Measures of Association Lab Warm-up ✎

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1. When are we generally interested in absolute measures vs. relative measures of disease association?

🗑

↑

A We're generally more interested in absolute differences when our goal is to plan or evaluate public health activities.

↓

B We're generally more interested in absolute differences when our goal is to investigate the causes of disease or other negative outcomes.

⊡

C We're generally more interested in absolute differences when our goal is to predict the occurrence of a disease or other negative outcomes.

D Our interest in absolute vs. relative measures is totally dependent on the disease or outcome we are studying.

ⓘ Measures based on absolute differences are often preferred when public health or preventive activities are evaluated, as their main goal is often an absolute reduction in the risk of an undesirable outcome. In contrast, etiologic studies that are searching disease determinants (causes) usually rely on relative differences in the occurrence of discrete outcomes,

Szklo, Moyses,Nieto, F. Javier. Epidemiology (Kindle Locations 2345-2347). Jones & Bartlett Learning. Kindle Edition.

2. The odds ratio is a biased estimate of association.

False

"Regardless of whether the odds ratio can properly estimate the relative risk, it is, as mentioned previously, a bona fide measure of association. Thus, a built-in bias can be said to exist only when the odds ratio is used as an estimate of the relative risk."

Szklo, Moyses, Nieto, F. Javier. Epidemiology (Kindle Location 2491). Jones & Bartlett Learning. Kindle Edition.

I think of it like this. The temperature and the humidity are measuring different things, but both provide me with information about the way I'm likely to feel when I go outside.

3. If OR is just the RR plus a bias term, why don't we always just use the RR?

In some cases, it isn't possible to estimate the RR.

Additionally, "the odds ratio is especially valuable because it can be measured in case-control (case–noncase) studies and is directly derived from logistic regression models. In addition, unlike the relative risk, the odds ratio of an event is the exact reciprocal of the odds ratio of the non-event."

Szklo, Moyses, Nieto, F. Javier. Epidemiology (Kindle Locations 2493-2495). Jones & Bartlett Learning. Kindle Edition.

4. A theoretical cohort study investigated the association between the use of artificial sweetener and diabetes. Artificial sweetener was the exposure of interest and diabetes was the outcome of interest. The odds of diabetes among people who used artificial sweetener was 0.111. Interpret the number 0.111.

A   Approximately 11% of people who used artificial sweetener developed diabetes during the study period.

diabetes during the study period.

B   Odds of developing diabetes were approximately 11% higher among people who used artificial sweetener.

C   The proportion of people in this cohort that end up with diabetes is approximately 11 times higher when they use sweetener.

D

0.111:1.0 = 1:9, so among people who used artificial sweetener, 1 person developed diabetes for every 9 people who did not develop diabetes.

ⓘ   This question is asking us to interpret an odds, not an odds ratio. In this case, the odds of diabetes among people who used artificial sweetener are 0.111. That means that (n with diabetes) / 1 - (n with diabetes) = 0.111. We can also write this as 0.111:1 and interpret it as 0.111 people developed diabetes for every 1 person who did not. A more intuitive way to write this answer is 1:(1/0.111), or 1:9.

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5.   A theoretical cohort study investigated the association between the use of artificial sweetener and diabetes. Artificial sweetener was the exposure of interest and diabetes was the outcome of interest. About 10% of people in the exposed group and about 1% of people in the unexposed group developed diabetes. Therefore we would expect the OR to do a fairly good job of approximating the RR.

    True

ⓘ   "Both odds and proportions can be used to express "frequency" of the disease. An odds approximates a proportion when the latter is small (e.g., less than 0.1)."

Szklo, Moyses, Nieto, F. Javier. Epidemiology (Kindle Locations 2192-2193). Jones & Bartlett Learning. Kindle Edition.

Add a Question

Multiple Choice   **True / False**   **Short Answer**

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