

Re: Is this enough information to make an inference?

Re: Is this enough information to make an inference?

Source: <http://sci.tech-archive.net/Archive/sci.stat.math/2007-12/msg00572.html>

- *From:* Richard Ulrich <Rich.Ulrich@xxxxxxxxxxxx>
 - *Date:* Sat, 29 Dec 2007 21:28:35 -0500
-

On Fri, 28 Dec 2007 13:09:39 -0800 (PST), "michalchik@xxxxxxx" <michalchik@xxxxxxx> wrote:

A link has been discovered between a certain virus (adeno-virus 36) and obesity. Casual mechanisms are being elucidated biochemically but I was wondering if there are any general statements we can make about the virus's contribution to the obesity epidemic.

Given:

- 1) The virus is a causal risk factor for obesity and that obesity is not a risk factor for catching the virus.
- 2) 20% of the general population tests positive for the virus.
- 3) 40% of obese people test positive for the virus.
- 4) 30% of the united states is obese.

Can we infer?

- 1) What percentage of obesity in the general population is attributable to the effect of the virus.

The first step to inferring is to construct a table of relative frequencies for a population of 100%. You have the marginal proportions for both Virus and Obese, and you have a cell, so you can get the other cells by subtraction.

You can make crude estimates from that. – How many "extra" cases are there in the Virus/Obese group? Google to see if there is a better formula.

"Attributable risk" would probably be underestimated, all things being equal, because there is surely a lag

Re: Is this enough information to make an inference?

Re: Is this enough information to make an inference?

between getting the virus and developing obesity.

2) What is the likelihood that you will become obese if you contract the virus.

I'd probably look at the Odds Ratio of the table as an indicator of effect size. I'd want to see tables for various ages... along with "duration of infection."

—

Rich Ulrich

<http://www.pitt.edu/~wpilib/index.html>

.