

Deceptive Drug Numbers Understanding "Relative Risk"

"On many drug ads you will see a percentage that promotes how effective a drug may be; but the problem is, these numbers are very deceptive."

My thanks to Dr. David Brownstein who shook me with the information I am about to share. Listen to this quote from Dr. Brownstein about prescription drugs, "it is ludicrous to think that we were born and made to have our enzyme systems poisoned and our receptors blocked long term and expect a good result." I'm reenergized when I hear that and reminded that we can have a profound effect on people's lives.

Drugs work but they have side effects, and we should strive to alert our patients that drugs are for short term use until we can find the solution to the problem. Right now America's drug bill is a big part of our health care crisis. Here's another mind blowing concept. Studies show that 75% of all Americans over the age of 65 take an average of 4 prescription drugs on a daily basis, yet not one study has ever been



done to document the safety of these random 4 drug combination cocktails, not one.

Personally, I've not had enough heart to heart conversations with my patients about the side effects of their drugs. Legally, I can't take them off the drugs so I have stayed away from the subject. However, I believe it's time to educate our patients that the "Emperor has no clothes."

Let's look at how little we are getting from the hun-

dreds of billions we spend. On many drug ads you will see a percentage that promotes how effective a drug may be. It's usually pretty impressive. The problem is that what's advertised is called "Relative Risk," and very deceptive. Look next to that percentage and you will see a little asterisk. Always follow the asterisk for the rest of the story.

Let's uncover how that number is calculated. Take the percentage of people

achieving success on the drug and divide that number by the percentage of people taking the control or placebo. Next, take the result of that calculation and subtract it from the number 1. We get a percentage.

Let's use real numbers to make it clear. The treatment group in a study was taking a drug for 3.3 years and they had a 2% incidence of non fatal heart attacks. The control group taking a placebo had a 3% incidence of non fatal heart attacks. To create the Relative Risk, we start by dividing the treatment group 2% by the control group 3% which is .66. Now subtract .66 from the number 1 and we get a 34% relative risk reduction in non fatal heart attacks. That is the number that shows up in the direct to consumer ads. And who wouldn't want to have a 34% risk reduction in nonfatal heart attacks? Sign me up. However let's look at a more precise way to understand the same numbers.

This is called the "Absolute Risk Reduction." By the way, this is the calculation that NEJM in their 2008 edition suggests physicians use. Let's use the same numbers. To calculate the Absolute Risk Reduction, take the % of incidence of non fatal heart attacks from the control or placebo group and subtract the % of incidence in the treatment group. In this case take the 3% control group and subtract the 2% treatment group. We get a difference of 1%. So by taking this drug we have a 1% reduction in non fatal heart attacks.

Now let me stretch you a little further because we want to make one more calculation called the "Number Needed to Treat" or NNT. The purpose is to convert the percent calculation from the "Absolute Risk" to a real number to make it applicable. We do

that by taking our 1% and divide by .01 to give us a whole number. Our answer is 100. What does this mean? It would take 100 people taking this drug for 3.3 years to prevent 1 non fatal heart attack.

What if the cost of this drug for 3.3 years is over \$550,000? Is that a good investment? This particular study was done with a major cholesterol lowering medication over a 3.3 year period. It's unnecessary to say the name of the company because most cholesterol lowering medications have the same or worse numbers.

You get the point. But to put it all in perspective, look at this. The "Number Needed to Treat" when using antibiotics for strep throat is 1.1. In other words, it would take 1.1 people taking penicillin for fourteen days to effectively treat a strep throat. When using triple drug therapy to treat H-Pylori, the number is 1.2. Dr. Brownstein states that results yielding a number over 20 are questionable. A number over 50 is ridiculous. Yet major pharmaceutical companies routinely use studies that have "Numbers Needed to Treat" of over 100.

With this in mind, consider Dr. Brownstein's quote, "it is ludicrous to think that we were born and made to have our enzyme systems poisoned and our receptors blocked long term and expect a good result." There is no question that drugs have a place in medicine but the concepts of Wellness are really the future of health care, and we are on the forefront. Keep on keeping on.

Thanks for reading this week's Tuesday Minute edition. I'll see you next Tuesday.