

Relatively Safe, Relatively Effective, and Relatively Cheap

We have all seen the flurry of arguments and fear mongering about pharmaceuticals in the media. So much of this is taken out of context that we need the scientific community to step up and help our friends and neighbors understand reality. Anything in the media that says one is twice as likely to experience side effect X when taking prescribed drug Y instead of drug Z is absurd, unless the likelihood for such an event for drug Z is defined. For example, when it comes to making an informed decision, an event that occurs 1:100,000 and then moves to 2:100,000 is entirely different from one that moves from 20% to 40%. Results obtained during 30-month clinical trials for chronic dosing of 70-year-olds does not tell us much that is relevant to using the same drug for two days in teenagers. Leaving out significant details such as these is an excellent way to cause humans to imagine fear.

Some say humans may be the only animal able to imagine fear when it doesn't actually exist. Worry in the extreme is itself a disease, releasing cortisol at a rate that causes much damage. The very biochemical systems designed to protect us from acute events can be highly damaging when they become chronic, as in post traumatic stress disorder. This problem is especially aggravated in patients who suffer from depression, bipolar disorder or schizophrenia.

If the media give the impression that the risk of medication is worse than the disease itself, this is (1) incorrect, and (2) highly damaging to the sufferers of these maladies. Parents who endeavor to make the best choices for their children are also easily confused by unbalanced reports based on bad science. If an event that *might* happen in 1 out of 500,000 children scares parents from a vaccine, then an event that *does* happen in 1 out of 5,000 or in 1 out of 500 children *might* occur instead. This analysis is apparently not obvious to citizens. When you read and listen to media reports, it's no wonder.

The public is not well served by either unrealistic expectations or by unrealistic fears. There has never been a drug in history that is 100 percent safe and 100 percent effective, or free, and thus the title of this essay. The question one must always ask is how do these three factors compare with doing nothing at all and accepting the consequences of disease? Is the disease real? Can we tolerate it? Are there other ways to mitigate the disease besides drugs? What will the disease cost versus the cost of the drug? These matters are complex. It does a great disservice to the FDA and the pharma industry to act as if they are not.



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