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THE SLIPPERY SLOPE OF MODERN MEDICAL REPORTING – PART I

Doctors, let alone lay people, are bewildered by all the contradictory theories presented in current health books as result of the many studies being presented, usually for commercial purposes.

"Theory" in the medical field often means just a guess – frequently incorrect. In physics and engineering, say, "theory" means an accurate prediction of real-life results which will not be found to be incorrect a few years later. In contrast, the plethora of contradictory results of studies in medicine and nutrition often lead nowhere and are later reversed.

Most medical science isn't science at all. A true experiment is meaningful only when it can result in valid recommendations. These are rare in the medical field, because it is next to impossible to control a person's environment well enough to come to an accurate conclusion rendering many, if not most, studies of little worth.

If there are negative results in a study, then what was hoped to work is disproven. In mathematics, to prove a theorem is false, all you have to do is find one case where it is false – case closed. Why doesn't this happen in medicine? Simple – who is financing the studies? Nutritional and pharmaceutical companies often mislead doctors and lay people. To make accurate medical claims, a statistical analysis of the variable influences ("analysis of variance") must be done, and three conditions must be met to make statements that show cause and effect: (a) every factor must be taken into account that could influence the outcome (in advance), (b) the relative importance of each factor must be determined (in advance) and (c) the probable contribution of each factor to the result must be estimated (in advance).

The obvious problem is that unless you can keep someone in a cage for the duration of the study, it is virtually impossible to do the above. Furthermore, usually no one knows what other factors even need to be considered. "Negative" outcomes are therefore very important and studies claiming how well something works should not be taken at face value.

Dr Walter Willet of the department of nutrition at Harvard School of Public Health, interviewed by *Medscape Oncology* (April 22, 2009) discussed his presentation at the American Association for Cancer Research's 100th Annual Meeting, entitled, "Diet, Nutrition and Cancer: The Search for Truth".[1] In this overview, he reviewed many of the associations that had been suggested by epidemiological studies, including red meat, meat cooked at high temperature, a high fat diet and alcohol (claimed to increase the risk), and fruit and vegetables (claimed to decrease risk). He said, "much of the evidence for these links is rather weak", and "if there was a strong association, we would have seen it by now", and "even the case for vegetables and fruit is fairly weak when it comes to cancer".

Dr Marcia Angell, former editor-in-chief of The New England Journal of Medicine, says that most doctors are ill-equipped to critically assess the conclusions of researchers, adding, "it is very hard to find enough articles to publish. With a rejection rate of 90% for original research, we were hard pressed to find 10% that were worth publishing. So you end up publishing weak studies. She adds, "doctors are not sceptical enough about what they read in top journals".[2]

It is possible to design experiments that don't require "interpretation" of results or even statistics showing probabilities of outcomes being accurate. Biochemistry, physical chemistry, physiology, physics and engineering are all fields whose experiments rarely, if ever, are open to interpretation. Even in medicine and nutrition, there is much data that is invariably correct, where recognising a cause/effect relationship is mandatory or the field will not progress. For example, too much blood sugar always means diabetes – no need for interpretation.

The authors of a recent paper did in fact understand that a true cause/effect relationship requires demonstration of a positive effect on the subjects, otherwise it's thrown out as untrue. We had been led to believe that HDL cholesterol was anti-atherogenic, so the researchers expected to find a 13% decreased risk of myocardial infarction among those who were genetically predisposed to higher HDL levels. To their surprise, they found no association between a genetically predisposition to higher HDL levels and lower risk of heart attacks.[3] Clinical trials have failed to show that raising blood HDL reduces adverse cardiovascular events, but not all doctors are aware of this.

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