

The Way We Research the Causes of Morbidity Is Compromising Trust in R.Ds and Nutritional Health Itself

By Kent Anderson

Americans have a rather jaundiced view of the value of nutritional advice. That stems mostly from the ways we do nutrition research. We emphasize individual nutrients as treatments in MNT, analogous to drug effects, while ignoring the differences between supplements and functional foods, in their treatment effects.

Meyerskens and Szabo (2005) point out the inability of research science to identify nutritional substances that cure or prevent cancer. They contrast the discoveries of Vitamin C in curing scurvy. Unfortunately, using the cure of scurvy as a model for scientific inquiry is part of the problem. The original cure was a food, namely the lime. Over time the chemical ascorbic acid was found to cure the disease. A single substance solved a disease. The other redeeming qualities of the lime fruit are deemed irrelevant. Using that model leads us to a reductionist view of the health effects of food. We fortify foods from cereals to milk, yet illness persists. The Academy of Nutrition and Dietetics (AND) (2013) is critical of this reductionist approach citing the potential benefits of thousands of phytochemicals already discovered in fruits and vegetables. We test and re-test individual chemicals found in foods for their potential curative effects. The sequence of events is repeated over and over. We find correlations between a given chemical (say “betacarotene”) and a decrease in a disease such as cancer. Observational studies demonstrate positive preventative effects of the substance. Then the gold standard of studies is used, the random controlled study (RCT). The effect of the food chemical is found to be weak or non-existent (or in the case of betacarotene, actually harmful. See The Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study Group (1994)) and we turn to the next chemical. Meyerskens

and Szabo suggest that epidemiological studies adopt a “multi-component” approach to identification of the efficacious agents of treatment.

Colditz (2010) believes that most nutritional epidemiological studies are unreliable because they ask the ailing patient to remember back to past diet patterns- creating a data set that is overly subjective. He is skeptical as well of RCTs because of (1) their small size and the defect that intervention (introduction of the micronutrient treatment) may not be occurring at a time when it will have a significant effect on the developing morbidity. Colditz’s solution is well-designed prospective cohort studies.

Hoffmann (2003) suggests we approach research with an interdisciplinary approach to epidemiological studies. She suggests the word “holism” to describe this new approach. I am respectful of holism and I think Hoffmann is right that we must change the design of our studies to account for the complexity involved in the synergy of biological chemical processes. The answer lies not only in epidemiology however. RCTs can be designed to use independent variables that are multi-factorial and synergistic. It requires two precursors. First, scientists must reimagine the scientific method as it pertains to nutrition studies. Second, the government must be willing to fund studies that industry is not clamoring for. Industry seeks to market elixirs whether in supplements or within their chosen food’s chemistry. It is unclear how industry can profit off synergistic biological effects of a healthy diet so government must be willing to fund based on the drive to improve nutrition and health.

Dietitians will be more influential if they throw their weight behind improvements in research methodology that will improve the science behind the dietetic practice. The integrity

that would be evident in such an approach would also improve the public's trust in our nutritional guidance.

Bibliography

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