Memory-based recall isn’t a solid platform for dietary recommendations

By ACSH Staff — June 11, 2015

Anyone who has been paying attention recognizes that governmental dietary advice seems to change pretty often. For example, eggs were forbidden because they’re high in cholesterol. But now they’re OK, and experts continue to argue about whether it’s a good idea to advise everyone to limit salt intake and how low should they go? Official recommendations on fat and sugar have also varied from one set of guidelines to another. Some of these changes simply reflect new research as well as differences in the prevalence of various diseases among the population. But some scientists contend that the bases of nutritional recommendations are data that are, by their very nature, unreliable in the extreme.

Dr. Edward Archer from the University of Alabama, Birmingham and colleagues, penned a critical review [1] of the current status of nutritional guidelines, published in the Mayo Clinic Proceedings. The authors point out that nutritional claims based on epidemiological studies fail to be reproduced when tested by objective study designs. They cite another review that found that none (emphasis added) of 50 such claims were replicated by independent research an indication that the claims were not to be trusted.

Archer and colleagues assert that memory-based dietary assessment methods (M-BMs) such as interviews, questionnaires and surveys, which are the dominant protocols in national nutrition surveillance systems, bear little resemblance to what people actually consume. They state that uncritical reliance on such data has wasted significant resources and constitutes the single greatest impediment to actual scientific progress in the fields of obesity and nutrition research.

To summarize, there are four main criticisms of the use of M-BMs as the bases of nutrition recommendations:

- human memory can not provide accurate or precise reproductions of past ingestive behavior
- M-BMs require individuals to submit to protocols that mimic procedures known to induce false recall
- the memories from which M-BMs are derived cannot be objectively substantiated
- the failure to objectively measure physical activity in studies means that any inferences about the relationship between diet and health are equivocal
Based on these criticisms, the authors conclude M-BM data cannot be used to inform national dietary guidelines and that continued funding of M-BMs constitutes an unscientific and major misuse of research funds. They also suggest that research funding should be directed towards changing the most prevalent disease of deficiency of the 21st century: inactivity.

ACSH’s Dr. Ruth Kava observed It is not at all surprising that nutrition research especially epidemiological research is being roundly critiqued. We have repeatedly warned in our Dispatch essays that the results of nutritional epidemiological research must be independently replicated whether statistically significant or not before any reliance can be placed on them. This review and critique underlines the importance of this warning, and obviously goes much further in recommending changes in current health research. It will be interesting to see the extent to which these recommendations are followed.

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