



Health Connections

LINKING NUTRITION RESEARCH TO PRACTICE

MINIMIZING UNINTENDED CONSEQUENCES OF SIMPLISTIC NUTRITION RECOMMENDATIONS

Good Advice Need Not Go Awry

Consumers make thousands of daily decisions. Rather than brood over each task, they use simple rules of thumb as efficient ways to make decisions in an era of information overload. Health professionals also use efficient ways, such as sound bites, nutrient rating systems and generalized public health recommendations, to deliver nutrition messages. This issue of *Health Connections* looks at unintended consequences that can result from translating the complex interrelationship between food choices and health into simplistic recommendations and suggests ways for health professionals to develop balanced messages.

Unintended Consequences of Dichotomous Choices

Diets represent the selection of a mixture of foods composed of a multitude of compounds having almost unlimited combinational effects. Examining and categorizing individual nutrients, specific foods or groups of foods as “good” or “bad” fail to recognize this complex connection. Such a dichotomous approach to nutrition guidance can omit important known and yet-to-be identified nutrients that act synergistically and play a less-understood but important role in health.

Science communications undertaken by an investigating institution’s media-relations office can sometimes interpret objective research more dramatically to secure a publicity splash. When communicating nutrition science, the role of nutrition and health professionals is to add perspective by putting new and emerging findings in context of the previous body of research, and encourage balanced food choices tailored to individual needs.

Unintended Consequences of Fat and Carbohydrate Messages

Consumers hear simplistic messages about good/bad fats and slow/fast carbs. Despite long-stand-

ing recommendations to reduce fat consumption, total fat intake has changed little from 1990—2006, while calorie and carbohydrate intakes have increased.¹ Messages today focus on the health effects of specific types of fatty acids or carbohydrates, but still require positioning in the total diet:

- Natural/ruminant *trans* fatty acids {rTFAs, contrasted to synthetic/industrial *trans* fatty acids (iTFAs) formed during hydrogenation} are found in milk and milk products and in the meat of ruminant animals. Their elimination is not recommended by the Dietary Guidelines for Americans (DGA) because of the potential for nutrient inadequacy that would result from omitting these foods.¹ In addition, rTFAs have a unique fatty-acid profile, which research suggests does not contribute to the negative cardiovascular effects of iTFAs²—and may even deliver health benefits.^{3,4} As research continues to investigate the health implications of rTFAs, it is the role of health professionals to be aware of and communicate these physiological differences to consumers.^{5,6}
- Many school districts are eliminating flavored milk from breakfast and lunch programs out of concern that the added sugars contribute to obesity. Studies in school cafeterias, however,

continued on page 2



Mary Jo Feeney, MS, RD, FADA

HEALTH CONNECTIONS EDITOR

Mary Jo Feeney specializes in nutrition communications and marketing. With over 30 years experience in public health nutrition and education, she currently is a leading consultant to the food, agriculture and health care industries. A charter Fellow of the American Dietetic Association, Mary Jo served on the Board of Directors of both the American Dietetic Association (ADA) and its Foundation (ADAF) and received the association’s Medallion Award in 1996.

REFERENCES

- ¹ <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/Chapter3.pdf>.
- ² German JB. *Eur J Nutr*. 2009; 48(4):191-203.
- ³ Wang Y. *Food Research International*. 2012;46:9.
- ⁴ Mozaffarian D. *Ann Intern Med*. 2010;21;153(12):790-9.
- ⁵ Baer DJ. *Am J Clin Nutr*. 2012;95:267-8.
- ⁶ Gebauer S et al. *Adv Nutr*. July 2011;2:332-354.
- ⁷ <http://www.milkdelivers.org/schools/flavored-milk/>
- ⁸ Murphy MM, Douglass JS, Johnson RK, and Spence LA. *J Am Diet Assoc*. 2008;108:631-639.
- ⁹ Craig WJ. *Am J Clin Nutr*. 2009; (suppl):1627S-33S.
- ¹⁰ <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/Chapter4.pdf>.
- ¹¹ Marcason W. Question of the Month. *J Am Diet Assoc*. 2011;11:1786.
- ¹² Neumark-Sztainer D et al. *J Am Diet Assoc*. 2011;111:1004-1011.
- ¹³ Maillot M and Drewnowski A. *Am Journal of Preventive Medicine*. 2012;42:74-179.

Good Advice, continued from page 1

suggest that when flavored milk is unavailable, milk consumption drops by about 35 percent, meaning that children can miss out on important nutrients.⁷ In addition, research shows that the inclusion of flavored milk does not lead to significantly higher sugar levels in the diets of children and adolescents.⁸

Unintended Consequences of Omitting Entire Food Groups

Elimination of all animal products from the diet increases the risk of nutrient inadequacies.⁹ Vege-

Practice Points for Health Professionals

- Consider the BIG PICTURE. Prioritize advice, consider the overall impact and strike a balance between information overload and simplicity.
- Rather than follow trends, encourage clients/consumers to choose diets better aligned with their OWN health goals, to think critically and not believe everything they read and hear. Give them some “red flags” to watch for; e.g., if it sounds too good to be true, it probably is.
- Emphasize healthy eating and physical activity rather than focusing exclusively on weight to minimize potential for disordered eating and weight-cycling.
- Add your professional perspective to nutrition information that clients get from social-networking forums. Suggest clients take advantage of credible web-based tools such as SuperTracker (<https://www.choosemyplate.gov/SuperTracker/default.aspx>) to create and then track a personalized nutrition and physical-activity plan.

Side Bar: Case Examples of Unintended Consequences

- A client, told to consume fat-free dairy products among other health recommendations either by the media or a general-nutrition presentation, doesn't like the taste or consistency of those products and subsequently cuts out dairy completely rather than consume the “wrong” food.
- Mom-and-pop stores in food deserts seek to expand choices for unsweetened beverages. However, an unintended consequence might result if these beverages take over the limited space previously devoted to produce staples.
- Biogenomics holds promise for individualized recommendations, but these are not transferable to others hoping for the same benefit. Others who think that they have similar family traits and health patterns may emulate early adopters of personalized health/nutrition recommendations; those others may extrapolate another individual's recommendations to themselves—which is the opposite of what biogenomics is meant to do.

Source: Doris Derelian, Personal Communication

tarian and vegan diets vary widely in composition, and adequacy depends on specific food choices and sufficient calories. USDA food patterns have adaptations for both a lacto-ovo vegetarian and a vegan pattern; the latter may need fortified foods or supplements to provide calcium, vitamin D and B12. Consuming sufficient plant foods to achieve the RDA for calcium may be unrealistic for many, particularly children.¹⁰

Unintended Consequences of Trendy Diets and Dieting

- Celebrity endorsements and spillover from popular, low-carbohydrate diets have created a United States market for gluten-free foods and beverages. With the media attention, consumers may be self-diagnosing without proper health and medical advice. A gluten-free diet appropriate to treat celiac disease excludes the protein gluten found in wheat, barley and rye and may result in low intake of iron, folate, niacin, zinc and fiber. Evidence-based research is still needed to confirm other perceived benefits—better sleep, increased energy and improvement of certain medical conditions.¹¹
- The steady stream of popular weight-loss diets suggests that diets do not work; rather, dieting is a predictor of weight gain. A study that tracked adolescents to young adulthood found that the prevalence of dieting and disordered eating behaviors was high and either remained constant or increased through the transition. Extreme weight-control behaviors and tripling of diet-pill use occurred in most age and gender groups. Behaviors tended to track within individuals, suggesting that these behaviors were not just a phase, but set the stage for continued use later in life.¹²

Unintended Consequences of Generalizing Public Health Recommendations

The DGA-recommended sodium intake of 1,500 mg/day applies to about half of the U.S. population, including children. Food-pattern modeling to meet nutritional standards discovered that compliance with the sodium guidelines would require major shifts from current eating behaviors and/or significant changes in the U.S. food supply. The 1,500-mg/day goal was not feasible, and the lowest sodium food patterns that were nutrient-adequate and theoretically achievable were high in fruit juices, nuts and seeds, but low in grains and meats.¹³ To improve our nation's health, public guidance recommendations need to be achievable, feasible, practical and economical.

INTERVIEW

Doris Derelian Ph.D., J.D., R.D., Professor, Department of Food Science and Nutrition, California Polytechnic State University, San Luis Obispo



Doris Derelian, Ph.D., J.D., R.D.

Q. What is the downside to simplistic messages?

A. When consumers apply messages developed and delivered in a particular situation to their own situation without the benefit of context, they risk changing the appropriateness and intent of the original message. Some may want a simplistic, quantified, do/don't approach to eating that includes a target so they know when they've reached it. However, simple dos and don'ts at some point have to be translated and integrated into the complexity of how to make healthful food choices in an environment dense with a barrage of other competing messages.

Advertising and digital technology splatter bits and pieces of information, creating awareness, but are nevertheless often devoid of a behavioral component appropriate and applicable to an individual's situation. Social networking enables consumers to seek information from friends/favorites, but responses are equivalent to testimonials appropriate for those offering them, yet inappropriate for others. Personal opinion issued through social networking often results in the rippling of incorrect information many times over and can produce a cascade of unintended consequences. Consumers are left to pick up the pieces, asking, "How does this message impact me, and what do I need to do?" This is the gap that health professionals fill by providing context to the content in order to minimize unintended consequences.

Q. Who is at risk for experiencing unintended consequences?

A. Those whose health goals are so important and powerful that they are willing to implement any behavior considered helpful are prone to experience unintended consequences. They are so motivated and will do something on their own anyway. The question is whether the intervention they adopt is appropriate.

Healthy and health-conscious seniors—especially those having family/friends burdened with the results of a not-so-healthy lifestyle—are highly motivated to modify behavior, but are also highly susceptible to fragmented information. My colleagues conducted secondary analyses of NHANES data. They found that those over age 55 with healthy diets, who on their own adopted a

low-calorie diet, wound up replacing their healthy eating patterns with an inferior, unbalanced diet low in protein—an unintended consequence of focusing on calories outside of the context of nutrient quality.

Q. How can we communicate public health recommendations, but take individual needs into account to avoid unintended consequences?

A. We need to consider the potential impact that new findings might have if prematurely extrapolated into generalized public-health messages. A startling, sudden finding is not sufficient upon which to base behavior change, as additional research may modify or even discount the finding. Unfortunately, little consideration is given to ripple effects up front: A decision that delivers positive first-order consequences could very well lead to negative second- or third-order events. See the Side Bar for miscommunication examples that I've gathered from workshops on unintended consequences.

As health professionals, we put a lot of effort into the content of the message. But this time and effort must be matched by our effort to think in depth—thinking it forward—about how the human psyche processes the messages—about the person who will or will not act on the information. In my food law and policy course, students present various sides of controversial issues. I've observed that the way the message is conveyed influences the thinking surrounding the outcome/decision of what someone does with the information. Part of the success of message delivery is the way it is conveyed—whether it adds value and enhances the quality of the output—that is, the behavior sought. Public health professionals are true believers in the content. It's the context—the way we deliver messages and engage consumers—that will be instrumental in minimizing the unintended consequences of good advice gone astray.