VIEWPOINT

Nutrition Education in Medical School, Residency Training, and Practice

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Nutrition education in medical school is rudimentary, at best, and limited for the duration of graduate medical education for many specialties. Requirements for meaningful nutrition education in all phases of medical training are long overdue.

In randomized clinical trials, dietary interventions have proven to both prevent and manage important diseases, such as diabetes and cardiovascular disease.[1,2] For example, compared with control groups, a Mediterranean-style diet was shown to reduce recurrent cardiovascular events by 72% (absolute difference, 2.83 events per year).[1] In individuals with elevated fasting blood glucose, a combination of dietary changes and physical activity reduced the risk of developing diabetes by 58% (absolute difference, 6.2 cases per 100 person-years), compared with a 31% reduction in individuals receiving metformin (absolute difference, 3.2 cases per 100 person-years).[2] However, the substantial body of evidence that supports the benefits of nutritional interventions has not adequately translated into action in medical training or practice.

Current clinical care guidelines cite nutrition as a primary intervention. For example, the 2018 American Heart Association/American College of Cardiology Guideline on the Management of Blood Cholesterol identifies lifestyle therapies as a primary therapeutic modality.[3] The flowcharts accompanying the guidelines position "healthy lifestyle" at the apex of the charts for both primary and secondary prevention of atherosclerotic cardiovascular disease. Yet, how can clinicians put these guidelines into practice without adequate training in nutrition?

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An inevitable question arises: with myriad topics in need of more attention in medical training, why is nutrition a priority? There are 4 reasons why nutrition education deserves special attention:

1. A 2018 report by the US Burden of Disease Collaborators identified poor-quality diet as the leading cause of death in the United States.[4] The prevalence and cost of diet-related diseases are predicted to continue to climb if left unchecked.

2. There is renewed interest in a shift in health care from disease management to health promotion and prevention, areas that physicians will find difficult to adequately advance without a solid foundation in clinical nutrition.

3. Patients are barraged by information on diet and health from the media, and physicians need to be knowledgeable in this area to help patients interpret and act on the confusing, and often contradictory, nutrition messages in the public domain.

4. There is increasing attention on the wellness and self-care of residents and fellows. Lessons learned by physicians-in-training about clinical nutrition might not only serve to improve patient health, but also have the potential to enhance physician self-care through greater awareness and knowledge of the dietary influences on well-being. This knowledge in turn can help make physicians more effective counselors.

Beginning with medical school, the time devoted to nutrition is limited, with an average of 19 total hours over 4 years, and is focused largely on biochemistry and vitamin deficiency states.[5] This is an incorrect focus, because diseases related to nutritional deficiencies, such as scurvy and beriberi, are not major problems in the United States. Following medical school, nutrition education during the 3 or more years of graduate medical education is minimal or, more typically, absent. Major updates were released in July 2018 to the Accreditation Council for Graduate Medical Education Common Program Requirements for both residency and fellowship training and, as in previous versions, the documents lack a requirement for physicians-in-training to learn about nutrition or diet.[6]

Similarly, requirements for nutrition education are lacking in specialty training programs. For example, the current Accreditation Council for Graduate Medical Education Program Requirement document for internal medicine residency has 42 pages, and the document for cardiovascular disease fellowship has 41 pages, but neither document includes the words "nutrition" or "diet."[7] This lack of education in training is reflected in what physicians report about their training. In a 2017 survey of 646 cardiologists, 90% reported that they had not received adequate nutrition education to counsel their patients, even though 95% believed it was their personal responsibility to do so.[8]

Some might suggest that physicians do not need to be educated about nutrition because other health care professionals, including dietitians, are better trained and positioned to make dietary recommendations. But guiding patients to make dietary changes is a team effort and can include appropriately trained dietitians, nutritionists, nurses, health coaches, and chefs. The problem is

that, currently, most physicians do not have enough education in nutrition to contribute meaningfully to that team. At minimum, physicians need sufficient training to at least begin the nutrition conversation with their patients. Additionally, clinicians with a foundation of nutrition knowledge will be more likely to recognize the importance of diet and make more effective referrals.

Problems related to poor-quality diet and obesity are the result of many complex personal and societal factors that extend far beyond the influence of physicians and hospitals. But physician visits are ideal opportunities to reinforce the message that attention to nutrition and lifestyle are critically necessary for optimal health and that medications alone, however important, will rarely be sufficient. Importantly, adequately trained physicians also may be stronger and better-prepared advocates for public policy that addresses the underlying causes of poor nutrition and food insecurity.

Medical education should match the interest in nutrition among patients and physicians with more action. Requirements for meaningful, clinically relevant nutrition education should be embedded in medical school, residency, and fellowship curricula. Some may argue that training programs are already overloaded with the expanding medical knowledge base, which begs the question that if nutrition is added to the curriculum, what should be replaced?

The most useful approach to including meaningful nutrition education into all phases of medical training is not to consider nutrition a new unit in the curriculum but, rather, to integrate concepts related to nutrition within the existing content. In this way, nutrition can be more appropriately understood as a vital, practical determinant of health rather than as an isolated discipline. For example, a medical school endocrinology lecture could include discussion of systems for categorizing carbohydrates with regard to glycemia. For graduate medical education, a conference for internal medicine residents on the clinical management of hypertension could include detailed information about the Dietary Approaches to Stop Hypertension (DASH) study.[9] Similarly, a presentation to cardiology fellows on the management of ischemic heart disease could include outcomes data from the Mediterranean diet studies as well as results of multidimensional lifestyle studies that emphasize plant-sourced foods.

Physicians and health care organizations can collectively begin to emphasize their seriousness about nutrition in health care by practicing what they (theoretically) preach. Is it appropriate to serve pizza and soft drinks at a resident conference while bemoaning the high prevalence of obesity and encouraging patients to eat healthier? A similarly poor example exists in medical conferences, including national meetings, where some morning sessions are accompanied by foods such as donuts and sausage. At minimum, a consensus to align food served in medical training programs and conferences with the Dietary Guidelines for Americans[10] would be a welcome approach.

An emphasis on nutrition is not only good medicine, but is also becoming sound economics. As new value-based models for payment of medical services take hold, financial incentives in medicine will increasingly align with prevention-oriented services, and among them should be a greater focus on nutrition.

ARTICLE INFORMATION

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