

## What Competencies Should Medical Students Attain in Nutritional Medicine?

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### Commentary

A sizable gap exists between the nutrition education offered in medical school and the dietary knowledge needed for patient care. Despite the centrality of nutrition to a healthy lifestyle and the pressing obesity epidemic, medical students receive limited training in nutrition. Often this instruction is focused on basic science and rare nutritional deficiency states rather than on the foundations of nutrition science needed to prepare physicians to address patient questions and nutritional needs.

As a result graduating medical students lack the knowledge and skills required to effectively promote behavior change in their patients. University instructors and graduating medical students agree that the approximately 25 contact hours of nutrition education provided to medical students is inadequate and even this low standard of hours is often not achieved.

Furthermore, such instruction is focused on pathogenesis rather than the real world nutrition-related challenges of their patients, e.g., metabolic syndrome, cardiovascular disease, nutrition in cancer, obesity, and hospital malnutrition. Additionally, most medical schools do not provide nutrition education outside of the classroom, so most medical students do not get the opportunity to learn how to integrate nutrition knowledge into clinical practice [1].

We propose an alternative to a narrowly focused basic science and nutritional training based on pathogenesis. Rather, teach nutrition as a key factor in autogenesis, the generation of health and wellness. In parallel with this, teach students key skills to foster behavioral change [2].

The authors are working to make changes in evolving medical school nutrition curricula and propose a list of core competencies.

Nutrition education in medical school should empower new physicians to:

- Take a diet history, perform an appropriate nutrition-oriented exam, and converse in an informed way with patients about their food choices [3].
- Discuss and empower patients to shop, cook, and prepare a healthy diet within a variety of budgetary levels.
- Student should learn to prepare food themselves so they can be adequately informed as they teach patients.

- Demonstrate knowledge of optimal evidence-based diets, such as the Mediterranean diet, as well as culturally acceptable alternative diets that provide healthy proportions of carbohydrates, protein, fats, antioxidants, fiber, and essential micronutrients [4].
- Demonstrate understanding of the epidemiology of obesity in the US and worldwide and its impact on health, healthcare budgets, and medical care.
- Evaluate the evidence for popular diets, supplements, and pharmacological agents for obesity and to develop practical and credible counseling skills for patients about these.
- Work in inter professional team that includes experts in nutrition, exercise physiologists, psychologists, health coaches, trainers, community health educators, and others.
- Learn, apply, and engage in motivational interviewing-helping patients understand their goals, motives, readiness to change, as well as barriers to change.
- Find and interpret policy documents informing national nutrition programs identifying major food consumption trends.
- Connect patients to existing resources for healthful foods and nutrition education in the community including food banks and pantries [5].
- Identify patients requiring intensive behavioral therapy and refer such patients to an appropriate practitioner, e.g. licensed counselor, psychologist, registered dietitian.
- Describe the role of whole foods and food based-nutrients for optimal nutrition compared and contrasted with the role of specific dietary supplements [6].

At the end of their training, medical students need these skills to help patients avoid lifestyle related disease and move the needle on the obesity epidemic. cursory knowledge of nutrition, especially training that is focused primarily on biochemistry, is inadequate for helping patients to make meaningful change [7].

We propose including the skills above as scaffolding for preparing the physicians of the future as well as other healthcare providers to optimize their patients' health through nutrition. In a future article, we plan to expand the details of these competencies by providing a map of learning objectives and activities, experiential cooking and shopping, and educational evaluation methods.

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