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Teaching Nutrition in Graduate Medical Education: An Interactive Workshop

Setting and Problem

Nutrition counseling plays a critical role in disease prevention. However, nutrition education is not standardized or emphasized in medical schools across the country. This trend often continues during internal medicine residency, leaving trained physicians without the knowledge to confidently counsel their patients about nutrition and diet. Our project

examines effective and interactive ways to educate resident physicians about nutrition and counseling within a community-based internal medicine residency program. Due to curricular and scheduling constraints, we focused on developing an integrated nutrition educational session for residency education.

Intervention

A hands-on, experiential, 2-hour nutrition workshop was developed by a resident and faculty endocrinologist for the internal medicine residency at Kaiser Permanente Oakland Medical Center. The session included slide presentations interwoven with video clips, group activities, food-sorting contests, and a hands-on “dessert challenge” to provide nutrition education in an interactive and fun learning environment. Experiential learning techniques and learning through games, videos, mini-lectures (series of 5-minute teaching slides), and publicly available provider/patient resources were utilized. Learner feedback was obtained for future workshop planning.

A slide presentation was used to introduce topics, nutrition concepts, and activities, including basic teaching on energy balance, macronutrients, caloric equivalents, and glycemic index, interwoven with demonstration of patient resources (US Department of Agriculture: www.choosemyplate.gov and www.supertracker.usda.gov) and counseling tips such as the 5/20 Rule, which identifies foods as a poor ($\leq 5\%$ of daily value) or good ($\geq 20\%$ of daily value) source of a particular nutrient. Family guide materials from the National Heart, Lung, and Blood Institute *We Can!* program were distributed for use as provider/patient educational resources (TABLE).

Three 5-minute YouTube videos provided additional multimedia-based learning (TABLE). The first video highlighted the dearth of nutrition education in medical training. The second video was an entertaining segment from the US Food and Drug Administration (FDA), “The Food Label and You” series, showing a party competition highlighting common pitfalls in food choices. The third video was a news clip that showed a residency alumnus discussing the 2016 FDA-approved food label changes.

Interactive group activities included food-sorting games (by carbohydrate, fat, and sodium content) and a meal-planning exercise with caloric and carbohydrate restriction. The workshop culminated with a hands-on creative dessert challenge for 6 participant teams challenged to create a tasty dessert with specific macronutrient restriction, fashioned after a popular network cooking show, with 3 surprise required ingredients (graham crackers, bananas, and chocolate

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TABLE

Literature, Video, and Handout Resources Used in the Nutrition Workshop

Type	Resource
Background literature	<ul style="list-style-type: none"> Devries S, Dalen JE, Eisenberg DM, et al. A deficiency of nutrition education in medical training. <i>Am J Med.</i> 2014;127(9):804–806. Morris NP. The neglect of nutrition in medical education: a firsthand look. <i>JAMA Intern Med.</i> 2014;174(6):841–842.
Videos	<ul style="list-style-type: none"> Greger M. Physicians may be missing their most important tool. Volume 24. June 1, 2015. http://www.nutritionfacts.org/video/physicians-may-be-missing-their-most-important-tool. Accessed February 17, 2017. US Food and Drug Administration. The Food Label and You series: Party Food (Gametime/Play by Play). http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm275409.htm. Accessed February 17, 2017. Your Central Valley. Decoding the new FDA food labels. http://www.yourcentralvalley.com/news/decoding-the-new-fda-food-labels. Accessed February 17, 2017.
Handout resources	<ul style="list-style-type: none"> US Department of Agriculture. www.choosemyplate.gov. Accessed February 17, 2017. US Department of Agriculture. Supertracker. www.supertracker.usda.gov. Accessed February 17, 2017. National Heart, Lung, and Blood Institute. We Can! Ways to Enhance Children's Activity & Nutrition. http://www.nhlbi.nih.gov/health/educational/wecan. Accessed February 17, 2017. American Diabetes Association. Glycemic index and diabetes. http://www.diabetes.org/food-and-fitness/food/what-can-i-eat/understanding-carbohydrates/glycemic-index-and-diabetes.html. Accessed February 17, 2017.

chips). An abundance of other ingredients, utensils, and a microwave turned the residency conference room into a test kitchen, and judging (by program and assistant directors) was based on presentation, taste, creativity, and nutrient and caloric content.

Outcomes to Date

Learner feedback was obtained anonymously before and after the workshop as part of the educational program; evaluation of these findings was exempt from review by the Kaiser Permanente Northern California Institutional Review Board. Among 26 attendees, half recalled receiving nutrition lectures in medical school, and the majority indicated that they were somewhat confident in providing nutrition counseling to patients. After the 2-hour workshop, 77% of participants felt more confident and 88% learned practical tips to provide to their patients. While 8% still preferred formal lectures from nutritionists, 92% liked the interactive workshop, including 27% who indicated additional preferences and/or suggestions. The workshop organizers noted that the atmosphere was fun and engaging during the session, with time constraints being the major limitation for coverage of additional topics and activities.

Although residents did not receive enough content to fully educate patients on nutrition, the positive feedback received suggests that future workshops utilizing this interactive learning approach may equip residents with both the knowledge and resources to more confidently counsel their patients. In future years we hope to expand this workshop into a multi-session course with nutritionists and primary care physicians leading activities that directly support patient counseling.

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