

Culinary Medicine: Innovative Nutrition Training for Resident Physicians

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Presenter Disclosure

Presenter: Jenny Xue

Potential for conflict(s) of interest:

Jenny Xue has received teaching honoraria from NOSM University.



Learning Objectives

1. Recognize nutrition training as an essential component of standard medical curricula.
2. Describe culinary medicine as a model to integrate nutrition knowledge and food literacy skills among physicians.

Background

- Suboptimal diet is the #1 risk factor for death worldwide (Global Burden of Disease study, 2017)
- Nutrition is insufficiently incorporated into medical education, regardless of country, setting, or year of training (Crowley, Ball, Hiddink, 2019)
- 87% of Canadian medical students believe their MD program should dedicate more time to nutrition training (Gramlich et al., 2010)
- *Culinary Medicine*, based in *Teaching Kitchens*, addresses this learning gap





What is Culinary Medicine?

- *Evidence-based* teaching model on food as medicine
- *Hands-on* food literacy & cooking skills
- *Interprofessional* collaboration between physicians, RDs, chefs
- *Physician self-care* and leading by example

Objective

To evaluate the impact of an in-person culinary medicine lab (CML) on FM residents' nutrition counselling skills, attitudes toward nutrition care, and preferred modes of nutrition training

Project precursors at NOSM University:

Elective CML series for medical students at NOSM U & UBC



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graph TD; A[Elective CML series for medical students at NOSM U & UBC] --> B[Virtual CML on FM Academic Day, September 2021]; B --> C[In-person CML on FM Academic Day, March 2023];
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Virtual CML on FM Academic Day, September 2021

In-person CML on FM Academic Day, March 2023



Project Design

- 2.5-hour mandatory session for 20 FM PGY1/2 residents (14 attended)
- Location: High school teaching kitchen in Sudbury, ON
- 12 recipes based on Canada's Food Guide

Sample station: Healthy fats



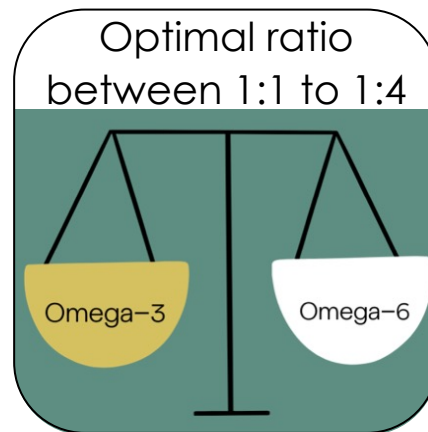
Recipe:

Salmon Croquettes
with Gomaе Salad



Culinary Skill:

Pan-searing



Nutrition Concepts:

Replacing saturated
with unsaturated fat
to ↓CVD risk;

Essential fatty acids
and recommended
Omega-3 intake



Key Messages for Patients:

Foods to ↑Omega-3;

Tips to ↓Omega-6;

Fish oil supplements

Project Design

- Part 1: Cooking and reviewing handout on culinary skills, nutrition concepts, and key patient messages
- Part 2: Shared meal and group discussion
- Evaluation: pre, post, and 2-months-post surveys with Likert scale and open-ended questions



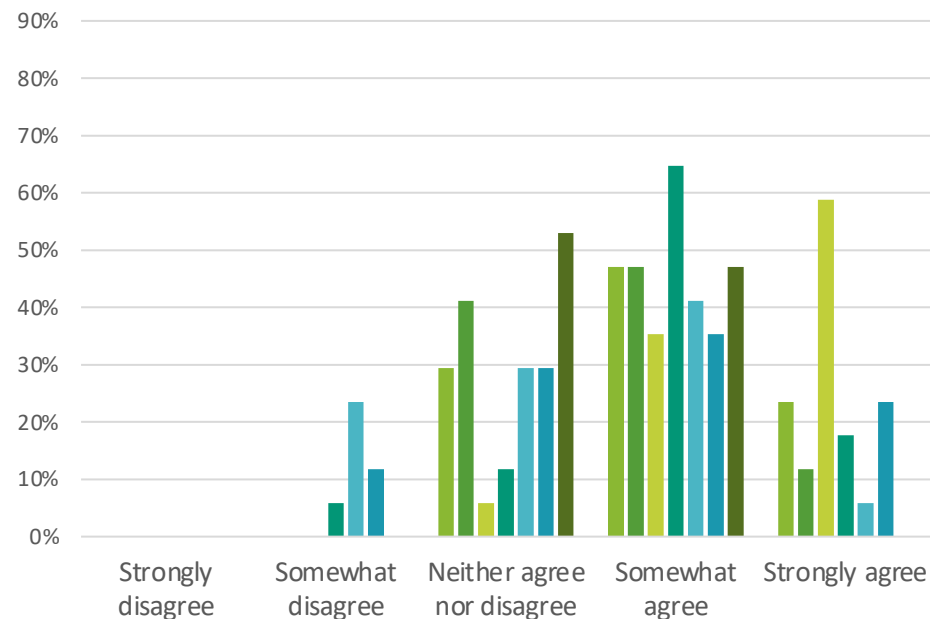
Results

Positive shifts in all nutrition competence/attitude survey items

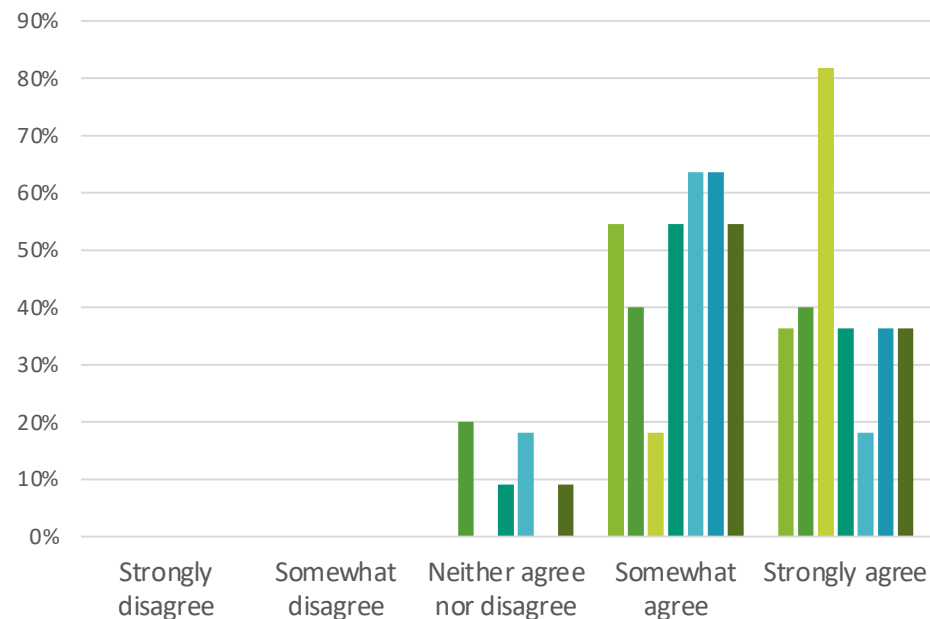
Survey question	Mean Score (1 to 5 Likert scale)		
	Pre-session (n=17)	Post-session (n=11)	Post Post-session (n=9)
Providing my patients with food skills and nutrition information will result in more home cooking	3.94	4.27	4.00
I think physicians could help their patients by discussing or demonstrating recipes with them	3.71	4.20	4.11
I believe doctors should understand nutrition and be comfortable helping patients learn about eating a healthy diet	4.53	4.82	4.56
I feel comfortable guiding patients towards eating a healthy diet	3.94	4.27	4.22
I feel comfortable discussing strategies to help patients eat well on a limited budget	3.29	4.00*	3.78
I know the acronym SMART as a tool to help with eating behaviour change	3.71	4.36	4.00
I can comfortably use motivational interviewing to help patients with healthy eating changes	3.47	4.27*	4.11

*statistically significant ($p < 0.05$) change in pre vs. post scores

Pre-session (n=17)

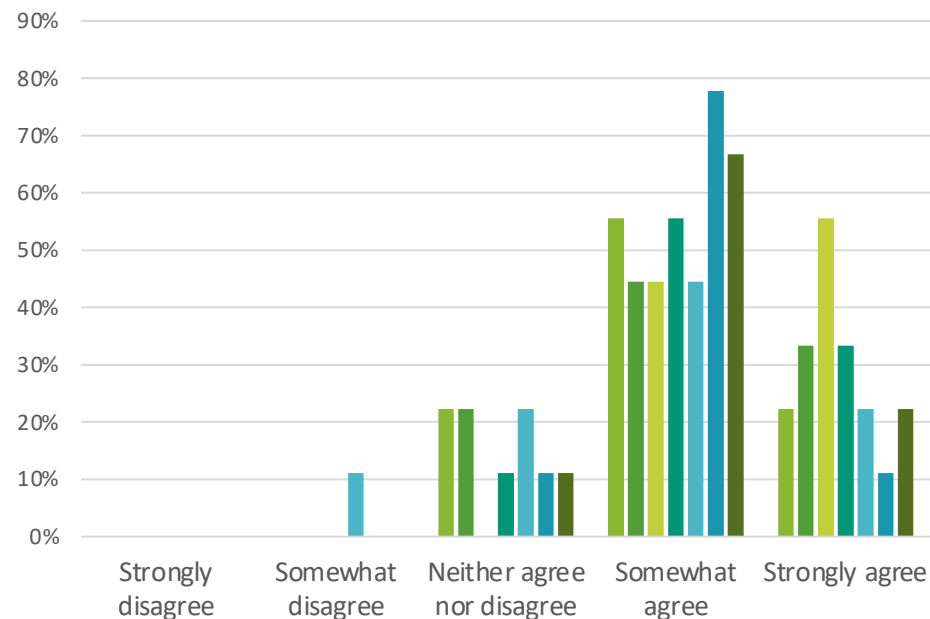


Post-session (n=11)



- Providing my patients with food skills and nutrition info will result in more home cooking
- I think physicians could help patients by discussing or demonstrating recipes with them
- Doctors should understand nutrition and be comfortable guiding patients towards a healthy diet
- I feel comfortable guiding patients towards a healthy diet
- I feel comfortable guiding patients to eat well on a budget
- I know the acronym SMART as a tool to help with eating behaviour change
- I can comfortably use motivational interviewing to help patients with dietary changes

2-Months-Post-session (n=9)



Results

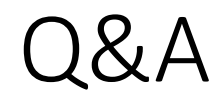
(post-session, n=11)

- All respondents noted improved competence in 3 relevant CFPC Priority Topic objectives (Lifestyle topic):
 - In the ongoing care of patients, ask about behaviours that, if changed, can improve health (e.g., diet).
 - Before making recommendations about lifestyle modification, explore a patient's readiness to change, as it may alter advice.
 - Explore a person's context (e.g., poverty) before making recommendations about lifestyle so as to avoid making recommendations incompatible with the patient's context.
- Top planned practice changes:
 - Counselling patients on nutrition
 - Referring to RDs
 - Self-care, e.g. cooking at home, healthy eating
- **High demand** for future sessions

Discussion & Next Steps



- Culinary Medicine is fun and effective
- US medical schools are now required to expand nutrition education (2022 White House National Strategy on Hunger, Nutrition, and Health)
- Implementation challenges include institutional commitment & funding
- Given limited curriculum space in UME, nutrition training for residents is a novel approach to address learning gaps
- CM for patients via group medical visits
 - Teaching Kitchens can promote not only healthy eating, but also exercise, mindfulness, etc.
 - Community partnerships to improve food security



References

Biden-Harris Administration National Strategy on Hunger Nutrition, and Health. The White House Domestic Policy Council; 2022. Available from: <https://www.whitehouse.gov/wp-content/uploads/2022/09/White-House-National-Strategy-on-Hunger-Nutrition-and-Health-FINAL.pdf> [Last accessed:10/20/2023].

Crichton T, Schultz K, Lawrence K, et al. Assessment Objectives for Certification in Family Medicine. College of Family Physicians of Canada [Internet]; 2020. Available from: <https://www.cfpc.ca/CFPC/media/Resources/Examinations/Assessment-Objectives-for-Certification-in-FM-full-document.pdf>. [Last accessed 10/20/2023].

Crowley J, Ball L, Hiddink GJ. Nutrition in medical education: a systematic review. *Lancet Planet Health* 2019; 3(9): e379-e389.

Eisenberg DM, Pacheco LS, McClure AC, McWhorter JW, Janisch K, Massa J. Perspective: Teaching Kitchens: Conceptual Origins, Applications and Potential for Impact within Food Is Medicine Research. *Nutrients* 2023 Jun 24; 15(13): 2859.

GBD 2017 Diet Collaborators. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet* 2019; 393: 1958–72.

Gramlich LM, Olstad DL, Nasser R, Goonewardene L, Raman M, Innis S, Wicklum S, Duerksen D, Rashid M, Heyland D, Armstrong D, Roy C. Medical students' perceptions of nutrition education in Canadian universities. *Appl Physiol Nutr Metab* 2010; 35(3): 336-43.

Wood NI, Stone TA, Siler M, Goldstein M, Lewis Albin J. Physician-Chef-Dietitian Partnerships for Evidence-Based Dietary Approaches to Tackling Chronic Disease: The Case for Culinary Medicine in Teaching Kitchens. *J Healthc Leadersh* 2023 Jul;15:129-137.