

YOU SHOULD TRY THIS!

Envisioning a healthy future: a pilot of a culinary curriculum for medical students

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Implication Statement

We explored learner and facilitator experiences in a culinary medicine program for undergraduate medical students using a mixed-methods approach to examine how the program supported future physicians' knowledge, skills, and confidence regarding nutrition and lifestyle changes. Findings indicated that the culinary curriculum facilitated learners' perceived capability, opportunity, and motivation to engage in healthy culinary behaviours themselves and to apply culinary coaching in their future clinical practice. Medical educators can adopt this culinary medicine curriculum in their own context to provide learners with an opportunity to build skills that can enhance their own well-being and inform their clinical practice.

Envisager un avenir en santé : projet pilote d'ateliers culinaires destiné aux personnes étudiantes en médecine

Énoncé des implications de la recherche

Nous avons étudié les expériences et les éléments facilitateurs pour les personnes étudiantes et inscrites à des ateliers culinaires dans le cadre d'un programme de médecine de premier cycle. Une approche mixte a été utilisée afin d'examiner comment ces ateliers favorisaient le développement des connaissances, des compétences et de la confiance des futurs médecins en matière de nutrition ainsi que de changements de mode de vie. Les résultats ont montré que ces ateliers culinaires renforçaient la perception qu'avaient les personnes étudiantes en médecine de leurs capacités, de leurs possibilités et de leur motivation à adopter eux-mêmes des comportements culinaires sains ainsi qu'des pratiques culinaires saines dans leur future pratique clinique.

Introduction

We conducted a pilot study of a Culinary Coaching (CC) educational program for undergraduate medical students to facilitate their healthy culinary behaviours and provide them with practical coaching tools that can be applied in their future clinical practice. In a healthcare system burdened by non-communicable diseases, the medical profession has an onus to educate patients on healthy lifestyle changes.¹ However, a gap exists between the competencies required for nutrition care and the nutrition education provided to medical students.² Canadian medical students report feeling unprepared to counsel patients on lifestyle behaviours.³ To address this issue, medical schools are creating courses in culinary medicine, a field that incorporates practical cooking instruction with nutritional science to provide nutrition education that can be applied in both clinical care settings and in learners' own lives.^{2,4} Previous work suggests that education focused on culinary-related knowledge and skills can help healthcare professionals support patients' healthy eating behaviours.⁵⁻¹³ For example, lived experiences of healthy culinary behaviours can help clinicians be authentic and credible role models, build rapport, and provide practical, relevant strategies to support healthy culinary behaviours (e.g., recipes, cost-saving measures, and resources), rather than offering high-level or abstract advice.

While Culinary Coaching offers a potentially viable approach for nutrition education, its application remains relatively unexplored within Canadian medical schools.^{2,4} Existing offerings often lack behavioural change components and a focus on barriers to home cooking and rely on hands-on modules in teaching kitchens that can pose barriers to sustainability (e.g., low accessibility and high costs).^{7,12,14}

Innovation

Informed by a coaching psychology approach, the CC program is an innovative culinary medicine education program as the telemedicine approach offers a low-cost and accessible program designed to improve learners' competencies to prescribe nutrition by combining culinary training with health and wellness coaching competencies (Appendix A).^{7,12} The CC program combines culinary skills training with evidence-informed behaviour change tech-

niques, such as health coaching, to address common barriers. Since previous research focused on practicing healthcare professionals, we conducted a pilot investigation of this program for undergraduate medical students.

Evaluation

We conducted a mixed-methods pilot study to investigate participants' experiences with the CC program through pre- and post-surveys and interviews. Seven first- and second-year undergraduate medical students in a four-year Medical Degree program located in Southeastern Ontario, Canada participated in the program. Five of the learners self-identified as women and two of the learners self-identified as men. Learners ranged in age from 22-30 years old ($M = 24.00$, $SD = 2.83$). The program facilitator was a 64-year-old self-identified woman with eight years of experience as a Culinary Coach. Six of the learners completed the post-program surveys. Six participants participated in the post-program interviews (learners: $n = 5$, facilitator: $n = 1$; Participant IDs were assigned across learners and facilitators who completed the post-program surveys/interviews). Given the richness of the qualitative data as well as the small sample size, we organized the data according to the contextualized qualitative data and, for the quantitative data (descriptive pre- and post-sample means), to provide supporting evidence on key aspects of the relevant components (Appendix A). Ethics approval was obtained from the institution's Research Ethics Board (File #-6034492).

We used the Capability-Opportunity-Motivation-Behaviour (COM-B) model for behaviour change to inform the interview guide and in the sensemaking of this work. Interviews were thematically analyzed inductively, and then the themes were deductively mapped to the COM-B model.¹⁵ This involved an iterative process in which codes and themes were refined as the interviews progressed. The team first engaged in repeated readings of the transcripts and responses to familiarize ourselves with the data. NVivo Software 14 was used to tag the transcripts and responses with relevant codes. Initial codes were discussed by the team and grouped into higher-order themes. Collaborative discussions informed the refinement of the themes, including naming each theme and identifying its key features. The team worked together to develop the report of our findings.

Participants viewed this program as an opportunity to overcome barriers to healthy culinary behaviours, including a lack of knowledge and skills, confidence and comfort in the kitchen, and resources (e.g., kitchen space, time, ingredients, and tools). Coaching-related skills were also developed (e.g., reflection, goal setting, and questioning; Appendix A). Learners reported higher levels of confidence in their culinary coaching competencies (Appendix A). Participants highlighted the importance of facilitator and peer role modeling in developing their skills and confidence. They described how the CC program supported the development of new knowledge and skills, and encouraged them to think differently about culinary medicine, such as learning about different ingredients, recipes, flavour profiles, cooking techniques, and goal-setting approaches.

Participants also shared that this opportunity influenced their current culinary behaviours and informed their future culinary goals and clinical practice. Participants recommended that future program iterations should emphasize culinary demonstrations, observation, feedback, and opportunities for peer engagement, diversify flavour profiles and cultural influences, shorten time requirements, and better balance synchronous and asynchronous activities.

Next steps

By illustrating how the CC program can support learners' perceptions of capability, opportunity, and motivation about culinary behaviours,¹⁵ we hope to build upon this pilot study to further integrate CC programs into medical education. Limitations included a small sample size, lack of control groups, selection biases, and self-reported data. Moving forward, it would be useful to employ quasi-experimental and longitudinal designs to assess the effectiveness of the intervention with larger and more diverse samples over time. Although evidence supports the relevance of culinary coaching for clinicians, an important next step is to evaluate its long-term implementation by medical students.

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Conflict of Interest:

RP discloses that they receive royalties from a home-cooking book and an honorarium from Wellcoaches.

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Appendix A. Key components for Implementing a Culinary Coaching program for medical students

Component	Description	Evaluation Findings
Where? Program Context	Canadian medical school in Southeastern, Ontario	
Who? Participants	Seven first- and second-year undergraduate medical students Age range: 22-30 ($M = 24.00$, $SD = 2.83$) Five women and two men	
Who? CC Facilitators	Sessions led by a team of two physicians, a health coach, and a chef Lead facilitator, Culinary Coach with 8 years of experience	[The facilitator was] “very encouraging and very supportive.” (P3-Learner-Interview)
What? CC program content	Introduction to Lifestyle Medicine, Culinary Medicine, and Culinary Coaching Nutritional science of home cooking Overcoming barriers to home cooking (e.g., limited time or budget) Culinary skills (e.g., recipes, kitchen organization, batch cooking, repurposing, techniques) Culinary Coaching skills (culinary vision, goal settings, motivational interviewing and coaching) Implementation of culinary medicine in clinical practice Student self-care	Engaging in a coaching approach “Because we practiced coaching on each other every time, I had done courses on motivational interviewing before. And we see it in patients, at least in first year, but it had never been about cooking. And so, it was really helpful.” (P2-Learner Interview). Challenging perceptions “I would say the biggest thing that I will take away, which is something that I have taken away for myself and also have shared with a lot of my friends and family, is just the benefits of home-cooking over getting food from other sources. I didn’t realize how much healthier it would be to just make your own pasta sauce and your own pasta versus picking it up from a restaurant.” (P1-Learner-Interview).
When? CC program design	Ten 1-hour sessions: (a) Five recorded skills-based sessions on nutrition and culinary skills, and health coaching principles to adopt home cooking and (b) five synchronous, facilitated online practice sessions	
How? Pedagogical strategies	Culinary coaching Demonstrations Experiential learning (e.g., remote cooking workshop, food preparation) Peer-based activities (e.g., practicing coaching conversations) Online learning activities Case studies Resources (e.g., recipes, culinary videos)	“[The facilitator] was really good at demonstrating how to give the sessions. I learned mostly through her demonstrations.” (P4-Learner-Interview)
Resources Required	Internet connection, Video-conferencing software, Facilitators (faculty) salary	
Outcomes of Interest	Capability (i.e., physical or psychological knowledge/skills) Opportunity (i.e., the social and physical environment) Motivation (i.e., the reflective or automatic motivational processes) Behaviour (i.e., self-reported changes in behaviour, intentions for future behavioural change)	Capability (own behaviours): “The knife skills were very exciting to learn how to use knives safely but also efficiently.” (P5-Learner-Interview). Capability (future practice): “I saw a lot of confidence being built in in terms of prescribing.” (P7-Facilitator-Interview) Opportunity (own behaviours/future practice): “...a lot of information was shared.” (P7-Facilitator- Interview) Opportunity (future practice): “Because we practiced coaching on each other every time, I had done courses on motivational interviewing before. And we see it in patients, at least in first year, but it had never been about cooking. And so, it was really helpful.” (P2-Lerner Interview). Motivation (own behaviours): “Overall, the course helped me both be introduced to recipes I normally wouldn’t come across.” (P6-Learner-Survey) and “... there

		was a lot of culinary interest ... they were exploring more and interested to try cooking things. Or going to the supermarket.” (P7-Facilitator-Interview) Motivation (future practice): “It is nice to know what the patient knows first, and tailor the teaching to that. For example, asking what they know about nutrition and tailoring explanations to reflect their level of understanding.” (P4-Learner-Survey). Behaviour (own behaviours): “...They talked about bulgur... I bought some because I saw it in the store. But I haven’t gotten around to using it, but I was planning to use it this week” (P2-Learner-Interview) and “ ... adding lentils and broccoli and things with plant-based protein into my diet, I feel happy having learned that. And honestly, it fills me, and it is great. I like it.” (P5-Learner-Interview)		
Evaluation Approaches	Mixed-methods Pre-Post Program Surveys Scale anchors: (a) confidence: (1 (<i>not at all confident</i>) and 4 (<i>very confident</i>)), (b) attitudes and program implementation (value, feasibility, utility): (1 (<i>do not agree at all</i>) and 4 (<i>highly agree</i>)), and (c) usefulness: (1 (<i>not useful</i>) and 4 (<i>very useful</i>)). Post-Program Interviews Thematic analysis	Learners’ Confidence in Culinary Coaching Competencies (4pt scale)	Pre-Program (n =7) M (SD)	Post-Program (n =6) M (SD)
		Discussing home cooking vision and 3-month goals with patients	1.86 (0.90)	3.17 (0.75)
		Providing culinary information following the coaching approach about healthier ingredients and culinary skills	1.71 (0.76)	2.83 (0.41)
		Using Appreciative Inquiry to initiate a culinary discussion with patients	1.43 (0.79)	3.17 (0.75)
		Using SMART cooking weekly goals	1.57 (0.79)	3.00 (0.89)
		Using whole food language with patients	1.71 (1.11)	2.83 (0.98)
		Learners’ Attitudes Towards Culinary Coaching (4 pt scale)		
		Cooking skills are an important factor in the prevention and treatment of nutrition-related diseases	3.71 (0.49)	3.83 (0.41)
		Cooking interventions have the potential to change dietary intake	3.71 (0.49)	4.00 (0.00)
		Cooking behaviours should be discussed by physicians	3.29 (0.49)	3.50 (0.55)
		People who participate in cooking skills interventions make changes to their dietary intake	3.00 (0.82)	3.50 (0.55)
		People like to receive cooking knowledge and skills in coaching	3.29 (0.49)	3.67 (0.75)
		Usefulness and Implementation of the CC Program (4 pt scale)		
		Discussing home cooking vision and 3-month goals with patients		3.50 (0.55)
		Using Appreciative Inquiry to initiate a culinary discussion with patients		3.33 (0.52)
		Using SMART cooking weekly goals		3.33 (0.82)
		Using whole food language with patients		3.33 (0.82)
		Providing culinary information following the coaching approach		2.83 (0.75)

		about healthier ingredients and culinary skills		
		The training was well-organized		3.50 (0.55)
		The training was useful in preparing for clinical practice		3.00 (0.63)
		I plan to implement culinary language in my clinical practice		3.33 (0.82)
		The training was easy to understand		3.33 (0.52)
		I would recommend the CC program for medical learners		3.00 (0.63)
		I would recommend the CC program to be integrated into undergraduate medical education curriculum		2.83 (0.75)
Lessons Learned	Program offers a valuable avenue for enhancing learners' capability, opportunity, and motivation to engage in healthy culinary behaviours themselves and to apply culinary coaching approaches in their future clinical practice	Building a culinary coaching toolbox [the program] "is really in-line with the concept of patient-centred care ... you would be willing to discuss it with them and how it aligns with their health goals and work with them towards being able to cook more." (P1-Learner-Interview). Bridging the gap "Personally, I feel like this program is quite relevant. I feel like often times we talk about wellness, which is very important. But diet I find is not often talked about. And I feel like it is such a key part to someone's health ... I feel like this is one of the key things that could really lead to healthier and happier healthcare providers for our healthcare system overall." (P4-Learner-Interview).		

Notes: P1-P6 (learners), P7 (facilitator), CC = Chef Coaching), SMART goals = Specific, Measurable, Achievable, Realistic, Time-Bound, M= mean, SD = standard deviation;