

Interprofessional students' perspectives of a culinary medicine training: Intentions from Plate to Practice

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ABSTRACT

Purpose

The purpose of this pilot study was to determine the impact a culinary medicine teaching activity had on interprofessional healthcare students' knowledge confidence and intent to apply practical dietary principles in practice.

Methods

Thirteen interprofessional students (n=13) completed a 3 hour, hands-on culinary medicine session focused on recipe conversion and nutritional coaching skills to modify a favorite comfort food into a significantly more nutritious, Mediterranean diet-based meal. Participants produced variations of a recipe to gain a deeper understanding of how diet modifications that are considerate of taste and nutritional value can treat health conditions. Pre-and Post-session surveys were administered to evaluate participants' knowledge and intent to apply culinary medicine principles into their respective healthcare practices.

Findings

Students reported an increase in the belief that nutritional counseling should be included in routine appointments, and increased confidence in their ability to implement culinary medicine into practice. All students reported intentions to integrate culinary medicine into practice, and a likelihood to recommend culinary medicine training to other healthcare professionals.

Conclusion

Interprofessional students reported learning satisfaction throughout the hands-on, chef-led and faculty facilitated culinary medicine teaching activity, and found the nutritional content to be especially transferable to working with patients during routine encounters.



BACKGROUND

Current estimates suggest that 6 in 10 adults in the U.S. have a chronic disease; 4 in 10 adults have two or more. It has been reported that the majority of chronic illnesses can be prevented and/or alleviated through lifestyle changes in diet and physical activity, yet the majority of Americans are not adhering to the U.S. Department of Health and Human Services and U.S. Department of Agriculture's (USDA) recommended Dietary Guidelines. For example, the most recent Healthy Eating Index (HEI), which the USDA uses to measure national adherence to the recommended *Dietary Guidelines for Americans*, was a 59 out of 100, a failing score.

Health promotion has evolved by supporting the premise that food can be viewed as medicine. Healthcare professionals, registered dietitians, nutritionists, consulting chefs and others are joining to expand multi-professionals' nutritional knowledge base in an effort to address population health. These collaborations have segued into the evolving field of culinary medicine.

METHODS

Participants

The 13 interprofessional students in the culinary medicine learning activity were of the following five professions: four physical therapy (PT), three medical, three radiologic imaging (RIS), two pharmacy, and one genetic counseling.

Procedure

Students completed pre-test session surveys in a classroom setting immediately prior to beginning the learning activity. The culinary medicine session began with an introduction a 30-minute introduction to the main principles of the Mediterranean diet and its impact on overall health and disease management. Next, students entered an industrial sized kitchen with multiple cooking stations. A 20-minute kitchen orientation was provided with a brief demonstration of knife safety, sanitation, and kitchen workflow. After the orientation, participants divided into four IP groups and were given one hour to complete a meal prep activity focused on modifying a taco recipe. The four recipes illustrated a continuum of ingredient modification and nutritional quality, from unhealthy to healthiest. The chef presented all 4 variations to the class to compare and contrast how specific modifications influence nutritional value, preparation effort, and appearance. To compare and contrast the impact of recipe modification on taste and pleasure, students sampled all 4 recipe variations in a social group setting. The purpose was to help participants witness firsthand how a popular household dish can be modified to be increasingly nutritious yet remain delicious. During the cooking segment of the teaching activity, students worked on a case study to transfer skills and knowledge of the meal prep session to a patient scenario. Following the debrief students were asked to complete the post-session evaluation surveys.

RESULTS

Demographics:

Demographic characteristics of the student participants: 69.2% identified as male; 69.2% identified as Non-Hispanic White; 7.7% identified as Non-Hispanic Asian, and 23.1% identified as Mexican American or Other Hispanic.

Culinary medicine beliefs and attitudes.

Survey items assessing culinary medicine attitudes and implementation confidence were administered pre- and post-event. Responses were analyzed using independent-sample *t*-tests comparing the sample's means pre- and post-responses. Students' belief that "nutritional counseling should be included in routine appointments increased from 3.38 to 3.77, where 1 = "Strongly Disagree and 4 = "Strongly Agree"; *p* = .049).

Confidence in ability to implement culinary medicine into practice.

Students' confidence in ability to educate patients on culinary medicine topics independently of support from other healthcare professionals increased across all items assessing culinary medicine implementation confidence, including confidence to educate patients on the health benefits of the Mediterranean diet (an increase from 1.85 to 3.15 on a 4-point Likert scale, *p* < .001).

Intent to integrate culinary medicine into practice.

Students generally reported intent to utilize culinary medicine within their respective practices (see Table 2), including an increased desire to teach patients about ways to increase their health through food (7.69% "a little"; 15.38% "moderately"; 76.92% "very much"), and a belief that it would be feasible to incorporate culinary medicine during their appointment/interaction time with patients (15.38% "a little", 61.54% "moderately", 23.08%, "very much").

All participants enjoyed the experience "very much" and 92% (n=12) and would recommend the event to other healthcare professionals. Students recommended the IPE culinary medicine experience for other healthcare providers as a means for increased knowledge in nutritional counseling.

Students also expressed a need for more in-depth knowledge to feel effective in providing nutritional counseling, implying that more education and experience is needed to achieve a large-scale impact for providing appropriate education to patients.



Table 2. Number and percentage of Likert-scale responses to culinary medicine behaviors.

Question	Number (% of Survey Respondents)
Did you enjoy the experience with culinary medicine?	
Not at all	0 (0)
A little	0 (0)
Moderately	0 (0)
Very much	13 (100)
Would you recommend training in culinary medicine, such as the experience you had today, to other healthcare professionals?	
Not at all	0 (0)
A little	0 (0)
Moderately	1 (7.69)
Very much	12 (92.31)
Did the Culinary Medicine experience increase your desire to teach patients about ways to increase their health through food?	
Not at all	0 (0)
A little	1 (7.69)
Moderately	2 (15.38)
Very much	10 (76.92)
Do you believe it is feasible for you to incorporate culinary medicine during your appointment/interaction time with patients?	
Not at all	0 (0)
A little	2 (15.38)
Moderately	8 (61.54)
Very much	3 (23.08)
Did the Culinary Medicine event increase your comfort level with providing nutrition counseling to patients?	
Not at all	0 (0)
A little	2 (15.38)
Moderately	6 (46.15)
Very much	5 (38.46)
If you are a student, how often do you provide nutrition counseling to patients when you are allowed by your attending/preceptor, and clinical schedule?	
Almost never (0 out of 10 patients)	6 (46.15)
Rarely (1-3 out of every 10 patients)	6 (46.15)
Sometimes (4-6 out of every 10 patients)	1 (7.69)
Often (7-8 out of every 10 patients)	0 (0)
Almost every time (9-10 out of every 10 patients)	0 (0)
AFTER this culinary medicine experience how often do you INTEND to provide nutrition counseling to patients when you are allowed by your attending and clinical schedule?	
Almost never (0 out of 10 patients)	0 (0)
Rarely (1-3 out of every 10 patients)	4 (30.77)
Sometimes (4-6 out of every 10 patients)	3 (23.08)
Often (7-8 out of every 10 patients)	6 (46.15)
Almost every time (9-10 out of every 10 patients)	0 (0)

CONCLUSIONS

Culinary medicine education can provide healthcare practitioners of several different fields of healthcare with valuable knowledge in nutrition and diet. Interprofessional students enjoyed the culinary medicine experience and most cited an intent to carry this new knowledge forward in their patient encounters. Providing nutritional counseling in a variety of healthcare settings has the potential to significantly impact the health of the population by treating disease with food, and healthier cooking and eating options. Based on the results of this study, academic programs in the healthcare field should embrace the importance of culinary medicine within curricula to provide students with the educational foundation to best promote health in patient care.

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