A recipe for nutrition competent physicians

Rysdale L, Hurley A, Green C, Ng V. Northern Ontario Dietetic Internship Program, Northern Ontario School of Medicine, Sudbury and Thunder Bay, ON.

Introduction:



Nutrition and lifestyle interventions are the **cornerstone** of chronic disease prevention^{1,2,3} yet diet remains underappreciated as an intervention to empower patients⁴. Physicians are not comfortable, confident or adequately prepared to provide nutrition counselling due to minimal education in basic nutrition and nutrition interventions in medical school⁵⁻⁷. Canadian medical students including those at Northern Ontario School of Medicine (NOSM) are dissatisfied with the nutrition education they receive^{8,9}. Efforts to improve this nutrition education have been undertaken by the Northern Ontario Dietetic Internship Program (NODIP) at NOSM. Culinary medicine labs (CMLs), delivered by registered dietitians (RDs), combine food literacy with clinical nutrition recommendations for medical learners¹⁰.

Purpose:

To demonstrate the need for an integrated, tailored CML curriculum for Year 1 and 2 Undergraduate Medical Education (UME) students.

Process and Outcomes:

 Two focus groups with UME Year 1, Sudbury campus (18 of 36 potential learners)
with thematic analysis.

- Facilitators and barriers to healthy eating on campus included programs in place, 2016-17 facilities and equipment, healthy food options, school schedule and workload, social motivation and support.
 - Two key themes on how to improve campus food environment.
 - Piloted four CMLs (3 in Sudbury, 1 in Thunder Bay) (75% participation; 36 of 48 spots filled with UME Years 1, 2 and 4).
- Topics: fad diets, weight stigma, nutrition and the art of eating. 2017-18
 - Two-page evaluations collated and quantitatively analyzed for pre- and postlearning objectives; session organization; presenter knowledge and skills; teaching methods; enhanced nutrition knowledge and RD role.
 - UME Years 1 and 2 (n=128) invited to complete 15-item online needs assessment (Qualtrics[©]) on nutrition attitudes, knowledge and behaviours; 28 completed (50% Year 1).
 - Environmental scan using PEN[®], PubMed, targeted websites related to nutrition, UME, RDs' roles in gastrointestinal and neurological disorders, cardiovascular disease, diabetes and bone health.
- 2018-19 Over 70 resources appraised with adapted tool from National Collaborating Centre for Methods and Tools.
 - Piloted 12 CMLs (6 in Sudbury, 6 in Thunder Bay) with content and timing aligned with UME Year 1 curriculum. Two-page evaluations collated and quantitatively analyzed.
 - Developed, adapted or refined curriculum for six CMLs (total of 12 instructional hours) with proposed implementation in 2019-20.

Improve Access





Enhanced knowledge



Increased nutrition knowledge





Improved health behaviours and perspectives



Unable to provide brief nutrition counselling

Unsure how to refer

to RDs





Discussion:

The CML participation rates varied (75% in 2017-18; 46% in 2018-19); challenges included regular attendance due to scheduling conflicts in the timetable and not being included in UME calendar. This interprofessional learning model with medical students, dietetic interns and RDs enhanced a greater understanding the roles of the health care team including the RD⁷. The CML model is not unique; best practices include Tulane University with more than 50 US medical school affiliations. In Canada, CMLs are delivered at University of Toronto, Calgary and BC. A mandatory integrated CML curriculum would support accreditation including required interprofessional learning experiences and assessment that has been designed and delivered by qualified RD staff and faculty who can ensure the content and revisions are current and credible⁷.

Conclusions:

The CML model increases nutrition competence, improves personal health behaviours and perspectives, and as a result medical graduates may be better able to counsel their patients as they progress towards the Entrustable Professional Activities (specifically 12) for residency¹¹. A multi-prong approach supported development of a comprehensive, evidence-based CML curriculum that is aligned with NOSM's UME Year 1 curriculum and ready for implementation. Additional curriculum development and CML pilot for UME Year 2 has been proposed for 2019-20 with a goal of mandatory integration for Years 1 and 2 in 2020-21.

Significance to the field of dietetics:

Interprofessional nutrition education, led by RDs, should be an essential component of medical education¹². Nutrition competent physicians are more likely to consult RDs, refer patients, and understand and value the role of the RD in health care¹².

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Northern Ontario School of Medicine

P.VUP, 4030