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Medical students' perceptions regarding the importance of nutritional knowledge and their confidence in providing competent nutrition practice

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ABSTRACT

Objectives: The objective of this study was to examine the perceived importance, knowledge and confidence in nutritional management in a sample of Australian medical students undertaking a 4-year postgraduate medical degree.

Study design/methods: In 2015, students in years 1–4 were anonymously surveyed to assess students' perceived importance of nutrition, and knowledge and confidence in nutritional management.

Results: A total of 131 first and second year (preclinical/yr 1–2) medical students (46% response rate) and 66 third and fourth year (clinical/yr 3–4) students (24% response rate) completed the questionnaire. Most preclinical students agreed that medical graduates should understand nutritional issues in managing cardiovascular disease (99%), type 2 diabetes (93%), coeliac disease (95%), and renal impairment (97%). However, students were limited in their confidence to demonstrate this knowledge (range of confidence: 26%–41%) for individual medical conditions. This improved for students in the clinical context of years 3 and 4, although it was still not optimal (range 26%–81%). Few year 3 and 4 students reported confidence in knowledge related to medicolegal issues, respiratory disease, nutritional guidelines and nutrition assessment (all <40%). However the majority (>80%) reported confidence in the dietary management of type 2 diabetes, cardiovascular disease and coeliac disease and >60% indicated they would refer onto nutrition professionals.

Conclusions: This cohort of postgraduate medical students recognize the importance of nutrition in disease. The number of students reporting increased confidence in nutritional management of a few select diseases where dietary management is one of the cornerstones of treatment (e.g. type 2 diabetes) rises throughout the course. However, students reported lower levels of knowledge in diseases where diet is secondary to other treatments and preventative strategies (e.g. respiratory disease). Filling the gap by integrating the

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nutritional management into the range of common chronic diseases during training has the potential to positively impact on patient health outcomes.

Introduction

The World Health Organization estimates that over 80% of current chronic disease burden is attributable to dietary and lifestyle factors[1] with the economic costs of this burden growing steadily.[2] In high- and middle-income countries, medical practitioners have the primary responsibility for patients' health and safety[3] including treatment and prevention of disease. With these factors considered, it is imperative that medical practitioners are competent and confident at providing accurate and effective nutrition practice.

There is now universal acknowledgement of the key role of lifestyle in the development of chronic disease, and so a core skill for today's medical practitioners is to assist patients to make lifestyle improvements that have been found to be effective in reducing chronic disease.[4] There is increasing recognition that medical graduates need to develop skills in providing simple nutritional messages, identify those at nutritional risk, or refer to dietitians or other specialists as appropriate.[5,6]

To date, limited curriculum time is devoted to the teaching of nutrition in medical courses worldwide.[6,7] This is concerning as medical education has historically been based on the principal that time spent learning content is proportional to the prevalence of disease within the population and also clinical competency.[8] More recently, competency-based models of education have been adopted in professional training programs.[8] Achievement of a set of specific competencies now forms the framework of the curriculum of medical courses in Australia.[9] Furthermore, the accreditation of medical courses now utilizes a competency-based model of education.[10]

In this changing medical education landscape, it is relevant to assess the perceived importance, competence and confidence in managing nutrition issues in medical students. This will assist in the identification of any gaps in current medical curricula and highlight teaching methodologies that are optimal to improve student learning outcomes. In 2013 we commenced curriculum mapping of the nutrition content of the Bachelor of Medicine Bachelor of Surgery (BMBS), a 4 year postgraduate course and found that there were few nutrition-related learning objectives and minimal formal assessment of nutrition knowledge and skills within the course. Following this, we wished to gather information on students' attitudes relating to perception of their nutrition knowledge and development of nutrition competencies.

Therefore, the aims of this study were to (1) examine the perceived importance medical students place on knowledge of the nutritional management of disease, and (2) describe the students' self-perceived nutritional knowledge and confidence in implementing evidence-based nutrition practice in an Australian postgraduate medical student cohort in pre-clinical and clinical settings.

Methods

Medical students of the 4 year, graduate entry Bachelor of Medicine Bachelor of Surgery (BMBS) course at Deakin University, Geelong, Victoria, Australia, were surveyed in 2015. Ethics approval was received in July 2015 from Deakin University, Faculty of Health, Human Ethics Advisory Group (HEAG-H_81). The first 2 years of this degree are largely pre-clinical (yr 1–2) and are based on-campus in a regional centre with high levels of non-communicable disease (Geelong). The core curriculum utilizes a problem-based tutorial learning structure supplemented by lectures. In the clinical years (yr 3–4), students undertake intensive hospital-based clinical training. Year 3 students have six clinical rotations, and year 4 students have four clinical rotations based primarily in rural and regional areas.

All 4 years of students were invited to participate in the questionnaire. For yr 1–2 students, the survey questions were displayed on a screen in the lecture theatre prior to the commencement of the lecture. Students were asked to log their responses via an audience response system (TurningPoint 5 Interactive PowerPoint® software). Clinical students (yr 3–4) received an e-mail from their clinical supervisor in semester 2, week 9 (year 3: 21-week semester; year 4: 18-week semester) requesting completion of the survey with a link to an online anonymous survey (©2015 Qualtrics, LLC). A follow-up reminder e-mail was sent in week 11 of the semester.

Details of survey questions

The choice of disease states used as a context was based on chronic conditions that are covered in specific problem-based learning (PBL) cases used within the medical course at this university. These include conditions where dietary management is the cornerstone of treatment and conditions where nutrition is important for recovery but is not a recognizable condition requiring nutritional management. For yr 1–2, to evaluate students' attitude to nutrition, the survey included questions asking students whether they considered nutrition was important, related to seven specific medical conditions with a nutritional component. In addition they were asked their level of confidence in demonstrating their knowledge related to these conditions (Appendices 1 and 2).

The survey was modified for yr 3–4, removing seven of the questions relating to importance of nutrition in the seven