

Nutrition Education for Oral Health Professionals: A Must, Yet Still Neglected

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Nutrition education, which should be an integral part of curricula for oral health professionals, has not received adequate emphasis in the training of dentists and dental hygienists.¹ There is wide recognition of the importance of nutrition in dental practice because oral health professionals see patients regularly for health maintenance, and frequent sugar consumption is causally linked to dental caries incidence, though the role of diet in the development and progression of periodontal disease is less well understood.² The American Dental Association (ADA) passed resolutions in 2015 to encourage dentists to maintain current knowledge of nutrition recommendations that are prevention-oriented and evidence-based to enable them to effectively counsel their patients about proper nutrition.³

However, nutrition education for oral health professionals has failed in the areas of course content, number of hours devoted to teaching, faculty preparation, and clinical relevance. The result is that dental and dental hygiene graduates are likely to continue to be incapable of providing effective nutrition counseling, as they were reported to be in 1990.⁴ According to DiMaria-Ghalili et al., a survey conducted by the American Dental Education Association (ADEA) in 2011 found that, among the 24 U.S. dental schools reporting, the mean number of hours devoted to nutrition was just 15.9 hours, with a range of 7–40 hours.¹ That survey found evidence that respondents did not see nutrition education as being clinically relevant; in most cases, courses in nutrition education were taught by biochemists, and only a few individuals (hired part-time or on an ad hoc basis) had training in applied nutrition.

The issue is similar in other health professions schools. A 2002 survey found that 53.5% of medical school graduates were not satisfied with the status of nutrition education in their schools.⁵ DiMaria-Ghalili et al. reported that the percentage of nutrition courses across U.S. medical schools had declined from 35% in 2000 to 25% in 2008 and that the nutrition education in U.S. nursing schools was not current.¹ In 1987, Stotts et al.’s survey of faculty and course directors in nursing schools found that 70% of the programs did not have a clinical nutrition component.⁶ Similarly, in pharmacy schools, nutrition education depends on the availability of faculty members to teach the material.⁷

Increasing nutrition education in health professions schools may be complicated by inconsistencies in dietary recommendations and best practices.⁸ Furthermore, ongoing updates of dietary guidelines require frequent course content revisions. The U.S. Department of Health and Human Services and Department of Agriculture develop dietary guidelines every five years. The 2015–20 guidelines give specific quantitative guidelines, such as consuming less than 10% of calories per day from added sugars⁹—a recommendation also made in the World Health Organization’s 2015 guidelines.¹⁰

To prepare oral health professionals to provide care for their patients in this important

area, there is a need for a common core of educational information based on current basic nutritional science and practice literature. Nutrition education in dental schools, dental hygiene programs, and continuing education programs can benefit from a variety of educational methodologies, from in-service training to interprofessional collaborative practice.¹¹

To addresses current deficiencies in nutrition education, we believe that academic dental institutions should be guided by the following principles:

- Research: evidence-based research, systematic reviews, and updated guidelines should be the basis for development of nutrition curricula and guidelines.
- Formation of curricular group: interprofessional committees including dietitians should identify the needed content from basic science and applied nutrition education.
- Vertical integration: instead of isolated courses, nutrition education should be incorporated into the basic sciences and clinical sciences. Nutrition-relevant history and examination skills could be integrated into problem-based learning modules.
- Evaluation: successes, failures, and clinical implementation of nutrition education should be assessed regularly to improve educational outcomes.
- Training of faculty: short-term courses, in-service training, and faculty development in the basic and clinical science of nutrition, designed by nutrition experts, should be designed for oral health faculty members.
- Innovation: teaching strategies that create links to personal, as well as professional needs, should be used to gain student interest.

Following these principles can help academic dental institutions address current deficiencies in nutrition education and training for oral health care professionals. Doing so will provide increased benefits for their patients.

REFERENCES

1. DiMaria-Ghalili RA, Mirtallo IM, Tobin WR, et al. Challenges and opportunities for nutrition education and training in the health care professions: intraprofessional and interprofessional call to action. *Am J Clin Nutr* 2014;**99**(Suppl):1183S–4S. » [Google Scholar](#)
2. Schifferle RF. Nutrition and periodontal disease. *Dent Clin North Am* 2005;**49**:595–610. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
3. American Dental Association. Board of Trustees. *Report 10 of the Board of Trustees to the House of Delegates: reducing added sugar consumption as a means to reduce dental caries risk*. Chicago: American Dental Association, 2015.
4. Palmer CA. Applied nutrition in dental education: issues and challenges. *J Dent Educ* 1990;**54**(8):513–8. » [Medline](#) » [Google Scholar](#)
5. Turner-Decker R. Nutrition education of medical and dental students: innovation through curriculum integration. *Am J Clin Nutr* 2004;**79**:198–203. » [Abstract/FREE Full Text](#)
6. Stotts NA, Engler D, Crocker KS, et al. Nutrition education in schools of nursing in the United States. Part 2: the status of nutrition education in schools of nursing. *J Parenter Enteral Nutr* 1987;**11**(4):406–11. » [Abstract/FREE Full Text](#)
7. Duckerson RN, Brown RO. Education and training in nutrition support. *Pharm Pract Nutr* 2003;**19**:693–7. » [Google Scholar](#)
8. Makowske M, Feinman RD. Nutrition education: a questionnaire for the assessment and teaching. *Nutr J* 2005; **13**(4):2. » [Google Scholar](#)
9. U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015–20 dietary guidelines for Americans. 8th ed. At: health.gov/dietaryguidelines/2015/. Accessed 10 Oct. 2016.
10. World Health Organization. Guideline: sugars intake for adults and children 2015. At: www.who.int/nutrition/publications/guidelines/sugars_intake/en/. Accessed 10 Oct. 2016.
11. Etherton-Kris PM, Akabas SR, Rales CW, et al. The need to advance nutrition education in the training of health care professionals and recommended

