NUTRITION EDUCATION IN MEDICAL TRAINING

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SCOPE

- INTRODUCTION
- CURRENT PERSPECTIVES
- BACKGROUND
- AIMS
- IMPORTANCE
- RECOMMENDED CONTENT
- ACTIVITIES IN PROGRESS
INTRODUCTION

- Nutritional advice from doctors and other health workers is held in high regard by the general public. (Jackson, A)

- It is important, therefore, to ensure that the advice given is sound and safe through optimal medical nutrition training. (Jackson, A)

- In light of the double burden of malnutrition, studies report that these diseases may decline if medical doctors provide nutrition and dietary advice to their patients. (Mogre, V. et al)
CURRENT PERSPECTIVES
MEDICAL STUDENTS (U.S., Australia and Ghana)

- The majority of surveyed students:
  - Feel nutrition is important (Hardman, Schoendorfer)
  - Are dissatisfied with the quality and quantity of their current nutrition education and feel inadequately prepared to provide nutrition care (Hardman, Schoendorfer)
  - Do not feel competent to provide dietary advice (Hardman)
  - Feel physicians are not adequately trained to provide dietary advice (Connor, Hardman, Gomanthi)
  - Used either consumer resources for nutrition or did not use any resources at all
  - Better prepared for diseases where nutrition is a cornerstone of treatment (e.g. diabetes) (Perlstein)
  - Lack awareness of nutrition’s role in cancer and respiratory disease
CURRENT PERSPECTIVES

PHYSICIAN (India, New Zealand, United Arab Emirates)

- Majority of physicians surveyed:
  - Perceive nutrition as important (Crowley 2015, Gomanthi, Ray 2015)
  - Feel confident to provide nutrition care (Crowley 2015, Ray 2015)
    - However much less so regarding cancer, sarcopenia, irritable bowel syndrome, or parents/caregivers of infants and toddlers (Crowley 2015)
  - Report receiving inadequate nutrition instruction (Gomanthi)
    - In particular, clinical nutrition, primary care, and evidence-based nutrition
  - Doctors have a reputation for being underprepared to provide dietary advice to their patients (Ray 2008, Ray 2015)
IN AFRICA

- Improving the quality of nutrition education in medical schools is necessary;
  - To build the capacity of doctors to deliver effective nutrition care to help reduce malnutrition, especially for sub-Saharan Africa. (Mogre, V. et al)

- Nutrition education in medical and other health schools has been explored quite extensively in developed countries; however, it has been scarcely studied in Africa. (Sodjinou. R., Et al)

- In recent developments;
  - 16 west African countries reviewed all medical and other health professional schools’ content on nutrition education.
IN MALAWI

• Is not an exception, like many developing countries, little has been done on medical nutrition education.
• Both the College of Medicine and the Nutrition Innovation Lab Africa desire better integration of nutrition into the Malawian medical, nursing, and paramedical school curricula.
• Recent developments;
  • FANTA assessed nursing curriculum and developed recommendations.
  • TUFTS University, Friedman School of Nutrition Science and Policy is currently assessing the medical curriculum for nutrition content.
INNOVATION LAB PRELIMINARY STUDY

KEY OUTCOMES

CONTENT

• Nutrition topics were secondarily embedded within other primary courses

WEIGHT

• No “required nutrition courses”

ASSESSMENT

• Faculty could not recall a requirement for students to recognize and outline treatment for nutritional disorders
MEDICAL CURRICULUM REVIEW

AIM

• Align the nutrition components of current medical curricula to harmonize with national priorities and nutrition actions.
  • Provide a sample nutrition curriculum (for medical school audiences).
  • Work with various stakeholders in developing guidelines for incorporating nutrition courses in the clinical medicine years.
TIMELINE OF ACTIVITIES

Define criteria for identifying curricula for review
- Literature review and formulation of gold standard tool

Review of MBBS curriculum at COM
- Weight and priority of the nutrition content
- Strengths and successes in delivering nutrition curricula
- Gaps and weaknesses

Report on findings
- Provide recommendations for incorporating specific nutrition content into curricula.
WHY IS THIS IMPORTANT?

PUBLIC HEALTH

No region or country worldwide is immune from the impact of nutrition on health outcomes.

1. The vast majority of current chronic disease burden can be attributed to dietary and lifestyle factors. (Lenders, Perlstein)

2. Nutrition is a key component of Lifestyle Medicine (Kushner)
WHY IS THIS IMPORTANT?

Quality

• Malnutrition can lead to:\(\text{(Kohlmeier, Kris-Etherton 2015, Ray2015)}\):
  • Immune dysfunction
  • Impaired physical and mental development
  • Reduced productivity
  • Adverse effects on clinical course of acute and chronic illness
  • Prolonged hospital length of stay
  • Increased frequency of hospital readmissions
  • Poor pregnancy outcomes

• “Bridging personal [student] health and nutrition is important because this enables medical students to learn the lifestyle behaviors and challenges faced by patients, in addition to the constructs of health and disease.”\(\text{(Hark)}\)
1. Patients are accustomed to receiving nutritional care from physicians. (Crowley)

2. Registered dietitians, while they are nutrition experts, are very small in number relative to other healthcare providers. (Kohlmeier)
WHY IS THIS IMPORTANT

Direct and Indirect Cost

   - Complications
   - Increased hospital length of stay
   - Hospital readmission

2. Interprofessional teamwork reduces medical errors. (Kushner)

3. Dietary interventions reduce incidence, severity, and morbidity of common chronic diseases. (Kris-Etherton 2015)

4. Nutrition counseling by knowledgeable physicians has been shown to, for example:
   - Improve patient body mass index (Hardman, Laur)
   - Reduce pregnancy complications (Kris-Etherton 2015)
RECOMMENDED CONTENT

• 9 Groups spanning the U.S., U.K., Australia, and New Zealand detailed their curriculum and/or recommendations.
• Recurring themes are detailed on the next 5 slides
• Themes to be included in all components of medical training. These include;
  • Basic medical sciences.
  • Clinical application
MOST COMMONLY IDENTIFIED NUTRITION PRINCIPLES

- Dysphagia/modified diets
- Healthy eating patterns
- Food and nutrition requirements and guidelines
- Free radical injury
- Food and nutrient deficiencies and excess
- Gut microbiome
- Fluid and electrolytes
- Fiber (soluble, insoluble)
- Vitamins, minerals, trace elements
- Cholesterol and lipogenesis
- Energy balance, satiety body...
- Macronutrients

References 2,3,7,8,12,13,17,23, + unpublished data from the 2016 Northeast Nutrition Education Summit, Boston, MA
MOST COMMONLY IDENTIFIED ASPECTS OF NUTRITION ASSESSMENT

- Energy and protein requirements
- Growth and development
- Nutrition-focused biochemical assessment
- Impact of family, medical, and social histories
- Drug nutrient interactions
- Intake and diet/fluid history, nutrition...
- Nutrition-focused physical exam and...
- Malnutrition
- Refeeding syndrome

References 2,3,7,8,12,13,17,23, + unpublished data from the 2016 Northeast Nutrition Education Summit, Boston, MA
WHERE IN CURRICULUM SHOULD NUTRITION CONTENT BE INCLUDED

At least two-thirds of groups recommended that nutrition be incorporated in the study of:

- Pediatric Growth
- Perinatal nutrition and Lactation
- Endocrine: Diabetes and Osteoporosis
- Cardiovascular disease: Hypertension and Hyperlipidemia
- Cancer
- Obesity
- Aging
- Renal disease
- Psychiatric disease and eating disorders
- Gastroenterology
- Chronic disease
- Knowing when to refer patients to a nutrition professional

References 2,3,7,8,12,13,17,23, + unpublished data from the 2016 Northeast Nutrition Education Summit, Boston, MA
WHERE IN CURRICULUM SHOULD NUTRITION CONTENT BE INCLUDED

Additional areas of study recommended:

- Pulmonary Disease
- Hematology: Nutritional anemia
- Surgery, fluid, and electrolytes
- Nutrition and oral health
- Biochemistry and foundations
- Dysphagia
- Food Safety
- Wounds

References 2,3,7,8,12,13,17,23, + unpublished data from the 2016 Northeast Nutrition Education Summit, Boston, MA
TUFTS GOLD STANDARD

- Derived from an extensive literature review

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<th>Nutrition across lifespan</th>
<th>Nutrition and organ systems</th>
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ACTIVITIES IN PROGRESS.

• REVIEW;
  • Activities include;
    • Review of curriculum content using gold standard tool.
      • Weight and priority of the nutrition content
      • Strengths and successes in delivering nutrition curricula
      • Gaps and weaknesses
    • Interviews with clinical instructors to assess assessment and evaluation measures.
REFERENCES

1. Adams, et al. The State of Nutrition Education in Medical Schools J Biomed Edu 2015; Article ID 357627, 7 pages
REFERENCES


REFERENCES

18. Perlstein, et al. Medical students' perceptions regarding the importance of nutritional knowledge and their confidence in providing competent nutrition practice Public Health 2015; 140:27-34