General Physicians' Viewpoints Towards Nutrition Course in the Medical School: a Cross-Sectional Study

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Abstract

Background and Purpose: *Although nutrition has a very important role in individual and society's health and disease, it has not yet received proper attention in the medical curricula. The objective of this study is to assess the opinions of general physician who worked at private offices in Khorramabad city about nutrition course in Iranian medical schools.*

Methods: *In this cross-sectional study the data were collected by posting a self-administrated questionnaire to all GPs who worked at private offices in Khorramabad city of Lorestan province in 2005. Participants were asked to state their opinions about each topic considering the following issues: the appropriate phase for introduction of the topic (in basic sciences, pathophysiology, or clinical training); need for learning it (low, moderate, high); and the time devoted to instruction of that topic (inadequate, appropriate, or excessive).GPs opinions were also surveyed to determine their reference for the topics not included in current nutrition course. Study data were processed by SPSS version 11 software and analyzed using descriptive and Chi-square statistics with a level of significance of less than 0.05.*

Results *Most of participants believed that clinical teaching periods (clerkship and internship) are the appropriate stage for teaching disease- related or clinical aspects of nutrition. They also valued most of the topics listed in the questionnaire as important learning needs as well as 15 new nutrition topics*

Conclusions: *Our results clearly indicate that there is a need to include clinical nutritional topics in the clinical training of medical students. New topics such as nutritional consideration in hypelipidemia, and heart disease should also be included in the nutrition education of physicians.*

Key words: *NUTRITION EDUCATION, MEDICAL CURRICULUM. GENERAL PHYSICIAN*

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Introduction

There is an increasing awareness of the importance of nutrition in the maintenance of health and the prevention of disease. Diet has a major role in the pathogenesis of heart diseases, cancer, stroke, diabetes, liver diseases, osteoporosis, dental caries, and accidental deaths (1).

Medical nutrition education is directed toward preparing physicians to incorporate nutrition into both the prevention and treatment of chronic illness and to meet the needs of patients and the public (2). Nutrition training for medical students is identified as an important part of medical education by several organizations, including the American Society for Clinical Nutrition (ASCN),

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the American Medical Student Association (AMSA), and the National Academy of Sciences (NAS) (3).However, the importance of the course of nutrition does not receive enough attentions in the medical curricula (4-6).

Indeed, many reports suggest that nutrition education of physicians remains inadequate (4). A 1997-1998 analysis of data provided by the Clinical Administrative Data Service of the Association of American Medical Colleges (AAMC) found that only 33 accredited US medical schools had a required nutrition course (7). Other reports on the status of nutrition in medical education have presented a similar picture (7).

Over the years, such reports have led to frequent calls for increased emphasis on, and reform of, nutrition education of physicians (4,-8, 9).

Several factors restrict the integration of nutrition education in the curriculum of medical schools including the resistance of educational institutes because of lack of knowledge among the managers and heads of departments, resistance of medical association especially medical boards, inefficiency of educational programs and lack of educational references (4, 8).

To respond to this problem, curriculum planners have to do a needs assessment to identify nutritional topics that are most required to achieve a desirable level of competency by the graduates. An invaluable insight will be provided by gathering the practicing physician stated needs in this regard. So we undertook this study as an attempt to assess the opinions of general physician who worked at private offices in Khorramabad city about nutrition course in Iranian medical schools.

Methods and Materials

In this cross-sectional study the data were collected by posting a self-administrated questionnaire to all GPs who worked at private offices in Khorramabad city of Lorestan province in 2005. The questionnaire was designed based on current outline of nutrition course approved by Ministry of Health and Medical Education and also other topics physicians faced frequently but not included in the course based on our own experience. Content validity of the questionnaire was confirmed by two nutritionists. The questionnaire was piloted in a sample of 10 GPs and based on these feedbacks some questions were revised. Participants were asked to state their opinions about each topic considering the following issues: The appropriate phase for introduction of the topic (in basic sciences, pathophysiology, or clinical training); need for learning it (low, moderate, high); and the time devoted to instruction of that topic (inadequate, appropriate, or excessive).GPs opinions were also surveyed to determine their preference for the topics not included in current nutrition course.

Study data were processed by SPSS version 11 software and analyzed using descriptive and Chi-square statistics with a level of significance of less than 0.05.

Results

Of 37 GPs to whom we sent the questionnaire, 31 completed and returned it. Mean of participants' age was 35.8±3.2. Eighty three percent were male and 17 were females. Table 1 shows that there is no significant different between the appropriate time for teaching of general aspect of nutrition, energy, water and electrolytes, vitamins, biochemical evaluation, food groups, scurvy, beriberi, pellagra, foodstuff hygiene, nutrition tables, nutrition journals, and dietary planning. There were significant differences in other topics (table 1).

Seventy five percent of the participants thought that the necessity of learning the following topics were high or very high: body composition (carbohydrates, fat, proteins, minerals, and vitamins); nutrition for specific groups (pregnant and lactating mothers, infants and children, and elderly); and disease related to nutrition (protein-energy malnutrition, nutritional anemia, goiter, and food poisonings). Other topics were considered to be of moderate or low necessity.

Table 2 shows the frequency of the needs for learning the topics expressed by physicians based on applicability of the topic for GPs and based

on meeting the community problems or needs in three level scale of high moderate or low.
Majority of participants believed that the time devoted to instruction of all topics is appropriate (except for two topics: nutrition in childhood and in old age).
About 80% of participants suggested the following topics to be included in nutrition education curriculum in medical schools: nutritional considerations on hyperlipidemia, atherosclerosis, coronary heart disease, hypertension, diabetes, obesity, thinness, renal diseases, liver diseases, and gastrointestinal disease.

Discussion

In recent years there has been a growing attention to nutrition and its role in health and disease in most nations (8).Teaching nutrition education to medical students will enable future practicing physicians to provide appropriate medical advice to patients seeking a healthier lifestyle. Many diseases (e.g. heart disease, cancer, diabetes, and hypertension) causing the highest morbidity and mortality among American adults have been linked directly to poor dietary habits. Despite good clinical and epidemiologic evidence that a poor diet over long periods of time represents a high risk factor for these diseases, medical students are not receiving adequate information to translate this knowledge into practical advice regarding healthier diets for their patients (10).
Our result showed that time of current topics nutrition is taught in Iran's medical schools is not appropriate.
Most participants stated that clinical teaching

Table1. GPs opinion on the appropriate time of introduction of the specific nutrition topics in the curriculum phases

Topics	Basic sciences	Physiopathology	Clerkship	x^2	P value
General aspect of nutrition	15(48.4%)	7(22.6%)	9(29%)	3.3	NS
Energy	12(42.9%)	11(39.3%)	5(17.8%)	3.1	NS
Water and minerals	12(40%)	12(40%)	6(20%)	2.4	NS
Vitamins	11(35.6%)	10(32.2%)	10(32.2%)	0.06	NS
Biochemical evaluation	12(48%)	4(16%)	9(36%)	3.9	NS
Food groups	10(35.7%)	11(39.3%)	7(25%)	0.9	NS
Scurvy, beriberi, pellagra	7(22.6%)	12(38.7%)	12(38.7%)	1.6	NS
Foodstuff hygiene	10(32.2%)	11(35.6%)	10(32.2%)	0.06	NS
Nutritional tables	7(26.9%)	7(26.9%)	12(45.2%)	1.9	NS
Dietary planning	6(20.7%)	8(27.6%)	15(51.7%)	4.6	NS
Nutritional journals	9(34.6%)	5(19.2%)	12(46.2%)	2.8	NS
Basic sciences					
Body composition	18(64.3%)	8(28.6%)	2(7.1%)	4	0.001
Charbohydrates, fats, proteins	19(63.3%)	8(26.7%)	3(10%)	13.4	0.001
Clerkship					
Nutrition in: pregnancy and lactation	4(12.9%)	3(9.7%)	24(77.4%)	27.1	0.000
Infant and children	4(12.9%)	2(6.5%)	25(80.6%)	31.4	0.000
Geriatrics	4(13.8%)	2(6.9%)	23(79.3%)	27.8	0.000
Clinical assessment of nutrition	4(13.8%)	4(13.8%)	21(72.4%)	9.9	0.000
Anthropometric	4(20%)	3(15%)	13(65%)	9.1	0.01
Food consumption analysis	5(19.2%)	5(19.2%)	16(61.6%)	9.3	0.01
protein-energy malnutrition	7(25.9%)	2(7.4%)	18(66.7%)	14.9	0.001
Nutritional anomies	5(16.1%)	9(29%)	17(54.3%)	7.2	0.02
Goiter	4(12.9%)	8(25.5%)	19(61.3%)	11.7	0.003
Food poisoning	6(20%)	4(13.3%)	20(66.7%)	16.2	0.001

Table 2. Frequency distribution of the needs for learning the topics expressed by physicians based on applicability of the topic for GPs and based on meeting the community problems or needs

Topics	Meeting the community needs			Applicability		
	high	moderate	low	high	moderate	low
Body composition	9(33.3%)	11(40.7%)	7(25.9%)	8(29.6%)	9(33.3%)	10(37%)
Carbohydrates, fats, proteins	15(48.8%)	12(38.7%)	4(12.9%)	16(51.7%)	8(25.8%)	7(22.6%)
Water and minerals	13(44.8%)	10(34.5%)	6(20.6%)	18(63.1%)	6(20.7%)	5(17.2%)
Vitamins	17(56.6%)	7(23.3%)	6(20%)	17(54.8%)	9(29%)	5(16.2%)
Nutrition in: pregnancy and lactation	18(58.1%)	7(22.6%)	6(19.4%)	23(74.2%)	5(16.1%)	3(9.7%)
Infant and children	16(53.3%)	7(23.4%)	7(23.4%)	23(76.7%)	4(13.3%)	3(10%)
Geriatrics	14(50%)	6(21.4%)	8(28.6%)	21(72.4%)	5(17.2%)	3(10.3%)
protein-energy malnutrition	16(69.6%)	2(8.7%)	5(21.7%)	15(61.4%)	3(14.3%)	3(14.3%)
Nutritional anomies	25(86.2%)	3(10.3%)	1(3.4%)	29(96.7%)	-	1(3.3%)
Goiter	23(76.6%)	6(20%)	1(3.3%)	29(93.5%)	2(6.5%)	-
Food poisoning	21(72.4%)	7(24.1%)	1(3.4%)	25(86.4%)	3(10.3%)	1(3.4%)

phases (clerkship and internship) are the appropriate time for teaching disease- related or clinical aspects of nutrition. A possible reason for this is that the medical students tend to be much more pragmatic, case-based and less theoretically focused. In fact, instead of providing a single "general aspect of nutrition" course in the first or second year of medical school, medical students need to be aware of nutrition and its application to the prevention of chronic disease throughout the medical curriculum.

In the introduction to clinical medicine, the importance of asking dietary questions when recording a patient history needs to be emphasized. When students begin their specialty rotations, nutritional concept, dietary advice, and the role of good eating habits for health should be emphasized. For those students with a strong interest in nutrition and medical care, electives in nutrition programs in teaching hospitals can be arranged (11).

Jazayeri also confirmed our results and showed that nutrition education is not enough in Iran's medical schools. She mentioned that horizontal and vertical integration of nutrition education can be an effective way to increase physicians' skills in nutrition. (8).In many studies have emphasized on promoting of GPs' nutrition information (1,8, 11, 12).

Our study suggests that principles of nutrition in chronic diseases should be considered in nutrition curriculum of medical students.

Fallahi and Kaveh showed the same results from the viewpoint of medical interns (13).

American Medical Student Association (AMSA) identified 92 topics deemed essential for developing physicians' competency in nutrition (14).Whereas only 28 topics have been presented in nutrition course in Iran's medical schools. Our study suggests 10 new topics to be considered in nutrition curriculum of medical schools.

In Iran, nutrition education has also not received proper attention and our results show that nutrition education can be improved.

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