



STUDY OF THE BASIC KNOWLEDGE IN NUTRITION OF STUDENTS FROM THE FACULTY OF MEDICINE, SOFIA UNIVERSITY “ST. KLIMENT OHRIDSKI”

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ABSTRACT

BACKGROUND: Nutrition is an issue of a great public health importance. Advices about diet and food choice given by the medical specialists are the most trusted source of information for patients. Reliable knowledge about food and nutrition, obtained at medical school will improve the capacity and confidence of medical specialists for counseling and further education of the public. However, there is evidence that the medical professionals have serious deficit in their knowledge in nutrition.

PURPOSE: To assess basic nutrition knowledge of students from the Faculty of Medicine at Sofia University.

METHODS: Fifty seven students in speciality: “medicine”, “nurses” and “medical rehabilitation and ergotherapy” were randomly selected in April 2012, after an informed consent for participation. Participants were administered a closed-type questionnaire divided into four main sections: awareness of dietary recommendations, knowledge of food sources related to the advices, using information to make practical food choice and awareness of diet-disease association.

RESULTS: The majority of respondents were medical students, women, aged 18-24, not married and without children. Less than a half of the group were involved in a nutrition classes or have acquired any special training in nutrition. Most of participants are not following any special diet during the study period. Although most students are aware about diet-disease relationship, less of them have good knowledge about the food quality and about right selection of healthiest food.

CONCLUSION: Several limitations in medical students’ nutrition knowledge were recorded with substantial differences depending of the speciality of the student.

Key words: nutrition knowledge, nutrition questionnaire, nutrition education, medical school, medical students.

BACKGROUND

Nutrition is an issue of a great public health importance. A considerable share of burden of mortality and morbidity – such as cardiovascular diseases, diabetes mellitus, some cancers and obesity- is due to diseases that can be related to diet pattern and individual’s nutritional status (1-3). Nutrition interventions can decrease morbidity, mortality and medical costs. Advices about diet and food choice given by the medical specialists are the most trusted source of information for patients. Family physicians consider it appropriate to give nutritional advice to their patients, but the perception that patients do not need or want, and would not follow the advice

decreased physicians’ interest of delivering nutrition messages in medical practice (4). Several surveys on barriers for nutrition advising by physicians conducted in UK and Canada revealed that physician perceive their knowledge about nutrition as insufficient and among the other obstacles are inadequate counselling skills, lack of time and poor patient compliance. (5-7) Reliable knowledge about food and nutrition, obtained at medical school during the course of medical training will improve the capacity and confidence of medical specialists for counseling and further nutrition education of the public. Although nutrition has a very important role in individual and society’s health and disease it has not yet received proper attention in the curriculum of medical schools (8). Studies and publications related to the level of nutrition knowledge of Bulgarian students in medical

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subjects were not found in the available published literature. Thus we were motivated to experiment and conduct the presented study.

OBJECTIVE

The object of the present study was to assess some basic nutrition knowledge of students from the Faculty of Medicine at Sofia University "St. Kliment Ohridski".

SUBJECTS AND METHODS

A closed-type questionnaire divided into four main sections was developed for this particular study. On the basis of the review of current recommendation in nutrition, dietary advices, food composition and the literature linking diet with disease the questionnaire was divided into four main sections: awareness of dietary recommendations, knowledge of food sources related to the advices, using information to make practical food choice and awareness of diet-disease association. Using these broad categories an item pool of 120 was generated including 44 closed-type questions.

Although the anonymity of the study, a number of demographic questions were included in the study to characterize respondents: sex, age, marital status, children (if any), and education

speciality: "medicine", "nurses", "medical rehabilitation and ergotherapy".

One hundred questionnaires were randomly distributed to the students, second to fifth year at the Medical Faculty - Sofia University "St. Kliment Ohridski" in April 2012 with the request that they complete and return them. The total number of distributed questionnaires represented around 40% of the students in the three specialties. The questionnaires contained a cover page with information for the purpose of study area and the field of results obtained. Participation was voluntary and anonymous. The survey results were statistically processed with SPSS, version 10, and are presented as percentage of answer (%).

RESULTS

Of the 100 questionnaires, 57 (57%) were completed and returned with a signed informed consent for participation. The majority of respondents were medical students (63.2%), women (63.2%), and aged between 18-24 (93%) and less than half of the group attended nutrition training courses (36.8%). The demographic characteristics are shown in **Table 1**.

Table 1. Sample characteristic (n= 57)

	n	%
Gender		
Male	21	36.8
Female	36	63.2
Age		
< 18	0	0
18-24	53	93
25-34	4	7
Specialty		
Medicine	34	59.6
Nurses	13	22.8
Medical rehabilitation and ergotherapy	10	17.5
Marital Status		
Married	4	7
Non-married	53	93
Attended training courses in nutrition		
yes	21	36.8
no	36	63.2
Attended training courses in nutrition by specialty		
Medicine	13	36.1
Nurses and Medical rehabilitation and ergotherapy	8	38.1
On a diet		
yes	15	26.3
no	42	73.7

The section with highest proportion of correct answers is the 'knowledge-awareness section' about nutrition recommendations. Almost all of the students are aware that the expert recommend increased intake of vegetables (96.5%), fruits (93%), fiber-rich foods (45.6%) and reduce sweets and pastry (89.5%), fats and fatty foods (87.7%) and salt (84.2%). Most of the respondents are aware that saturated fats should be reduced (66.7%), low fat dairy foods are healthier (59.6%) but only few of them know that there is recommended five portions of fruits and vegetables daily (19.3%). It was

revealed a relatively high share of correct answers in this section which indicates that medical students understand the meaning of "healthy nutrition" and core messages. Several studies about basic knowledge about nutrition reveal that students are more sensitive and have proper understanding of nutrition messages compared to other population groups at the same age (9, 10). Some results of knowledge about food composition are presented on **Table 2**. The table includes only some issues – added sugar, fat, salt and fiber.

Table 2.

Question	Food item	Numbers answering correctly	Percent answering correctly (%)
High added sugar foods	Ice-cream	56	98.2
	Fruit squash	42	73.7
	Ketchup	33	57.9
High fat food	Margarine	54	94.7
	Roussensko vareno	46	80.7
	Walnuts	35	61.4
	Eggs	28	49.1
High salt food	Cheese	53	93
	Sausages	46	80.7
High fiber food	Boiled potatoes	46	80.7
	Broccoli	38	66.7
	Beans	35	61.4
	Corn flakes	20	35.1
High saturated fat food	Milk	49	86
	Vegetable oils	35	61.4
	Red meat	30	52.6
Healthy alternative to red meat	Boiled beans	32	56.1
	Low fat cheese	27	47.7
	Soya	26	45.6

Some questions are intended to test the more extensive knowledge and understanding about food and nutrition issues. In this section we observe a broad range of correct answers. From a total of 18 questions in this group there is a high variation of scores of correct answers between 31.6% and 91.2%. Almost all students know that the wholegrain bread is high of vitamins and minerals (91.2%), brown sugar is healthier alternative to refined sugar (80.5%), calcium level is similar in low fat and full fat milk (47.4%) but relatively less are aware that fresh fruit are not identical with fruit juices consumption (36.8%), protein content is the same in skimmed milk and full fat milk (36.8 %), calorie content per unit is higher in butter than in sugar (38.6%) and that saturated fatty acids are mainly in solid fats (36.8%) but not in oils and PUFA are in oils and not in milk and dairy (47.4%) and the

dairy fats are mainly saturated (31.6%). In the section about choosing foods the scores of correct answers fluctuate from 26.3% to 68.4%. The higher number of correct answer is related to high- sodium and high fiber foods and low- fat foods. A relatively small number of correct answers have received questions regarding the combination of foods, composition of food and cooking technology. **(Figure 1)**

Most of the students are aware that low consumption of fruits (89.5%) and low fiber diet (are related to some diseases but very few can (71.5%) specified the correct disease.

DISCUSSION AND CONCLUSIONS

The survey supports the finding that the knowledge in nutrition of medical students is modest found by other authors (11, 12). However, within specific areas of nutrition

there seems to be remarkable variations in knowledge, for example, very high degree of knowledge about guidelines an nutrition recommendations and relatively low about food composition and quality. The very high knowledge demonstrated for several topics which are currently popular in the press and non professional journals and websites and

suggests that medical students do learn about nutrition like that of the general public and their knowledge are highly dependent upon the nonprofessional literature. More targeted and professional training courses for medical specialists are needed to improve their basic nutrition knowledge.

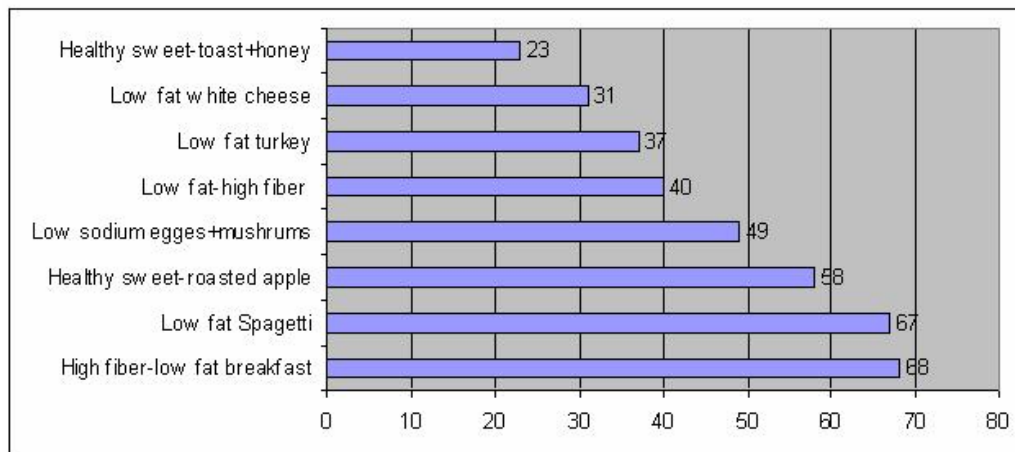


Fig. 1. Percentage of correct answers for the food choice issues

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