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## NUTRITION EDUCATION AT THE FACULTY OF MEDICINE – SOFIA UNIVERSITY – NEW PERSPECTIVES

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### ABSTRACT

**BACKGROUND:** Although the nutrition training is an important component of education in the health professions the adequacy of nutrition instruction in undergraduate medical education remains an issue of concern and most graduating medical students continue to rate their nutrition preparation as inadequate.

The ever growing interest in nutrition sciences and practice during the last two decades stresses the needs of innovative and integrative approach in nutrition education in medical schools to improve the capacity for nutrition communication and counseling among physician and health professionals.

**PURPOSE:** To determine the amount and type of nutrition instructions in medical curricula including instructions not present in the designated nutrition courses at Faculty of Medicine, Sofia University, ‘St. Kl. Ohridski’ and to suggest a new approach for nutrition trainings.

**METHODS:** A detailed analysis of the curricula since 2003 was performed to determine the academic involvement associated with nutrition trainings and based on the identified needs an integrated undergraduate training in nutrition was developed.

**RESULTS:** From a total of 64 subjects included in the curriculum of medicine, 41(54%) are compulsory 17(26%) are optional and 6(10%) - facultative. Out of 41 compulsory courses, 8 (19%) contain information/instructions on nutrition in a different academic hours - from 1 to 37% of the total classes. There is only one specialized course in Nutrition and Dietetic but it is still elective. There is no minimum standard of hours in nutrition recommended by the Bulgarian Healthcare authorities to be included into medical training and each university determines independently the content of nutrition training it offers.

**CONCLUSION:** Nutrition training is consistently integrated throughout the course of medicine but a substantial portion of the total nutrition instruction is occurring outside courses specifically dedicated to nutrition. The nutrition training is more clinically oriented and less to public health problems. The suggested modules, although optional will create a broader perspectives on nutrition to the medical students.

**Key words:** Nutrition education, medical education, nutrition in medical school curriculum, public health nutrition

### BACKGROUND

Nutritional sciences is a broad, problem-solving field that integrate knowledge from biology, chemistry, biochemistry, physiology, pathology and the social sciences to create an awareness and understanding about the relation between diet, health and diseases at individual and population level. Proper nutrition plays a key role in disease prevention and treatment. Nutrition advice from doctors and other health workers is highly respected by the patients and general public. (1). However the adequacy of

nutrition instruction in undergraduate medical education remains an issue of concern and most graduating medical students continue to rate their nutrition preparation as inadequate. (2) Also many doctors do not feel comfortable, confident or adequately prepared to provide nutrition counseling which may be related to suboptimal knowledge of basic nutrition science facts and understanding of potential nutrition interventions. (3) Nutrition education has been underrepresented at many medical schools not only in Bulgaria but also in Europe and in North

America as well. Despite difficulties envisaged in modifying the medical curricula it is obviously that medical professionals need some basic nutrition competencies suitable for medical counseling in disease prevention and management. This is critical also because the increased burden on diet-related non-communicable diseases and the close relationship between the diet and diseases. (4-5) The ever growing interest in nutrition sciences and practice during the last two decades stresses the needs of innovative and integrative approach in nutrition education at university to create a strong basis for medical practice and postgraduate training in nutrition and dietetic. (6) To meet the growing interest of medical students, nurses and ergo-therapists in nutrition Medical faculty is planning to expand training in nutrition assessment and intervention through analyzing the current status of nutrition

instructions and developing a core nutrition curriculum.

### OBJECTIVE

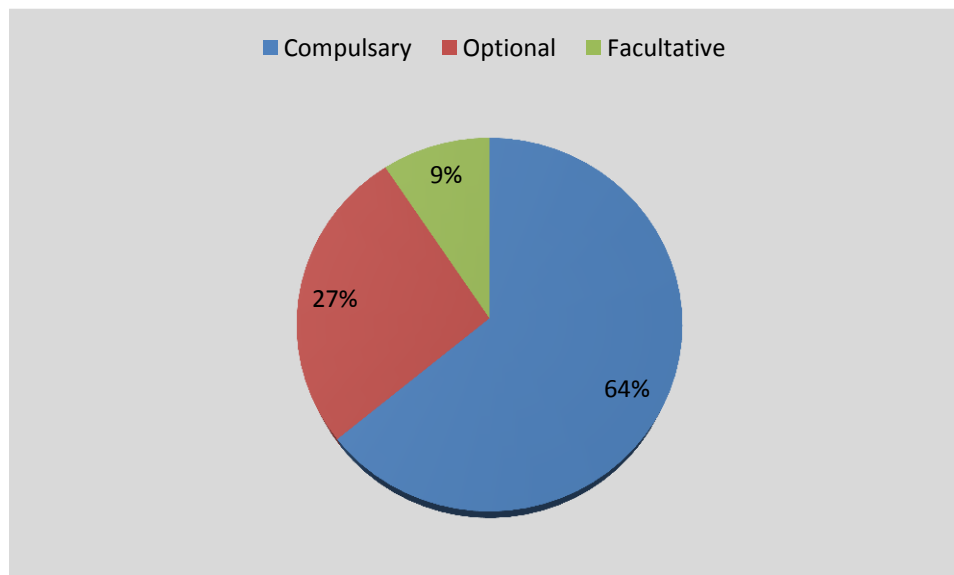
To determine the amount and type of nutrition instructions in medical curricula including instructions not present in the designated nutrition courses at Faculty of Medicine, Sofia University, 'St. Kl. Ohridski' and to expand nutrition trainings in medical curricula.

### SUBJECTS & METHODS

A detailed analysis of the curricula since 2003 was performed to determine the academic involvement associated with nutrition trainings.

### RESULTS AND DISCUSSION

The distribution of subject in the curriculum of medicine is presented on **Figure 1**.



**Figure 1.** Characteristic of the disciplines in medical curriculum,

From a total of 64 subjects included in the curriculum of medicine, 41(54%) are compulsory 17(26%) are optional and 6 (10%) - facultative. Out of 41 compulsory courses, 8 (19%) contain information/instructions on nutrition in a different academic hours - from 12 to 67% of the total classes.

In the Medical Faculty, the bulk of nutrition education is taught in the basic science courses or in an integrated format. This means that more than a half of the nutrition instruction is not specifically identified as nutrition in the curriculum. There is only one specialized course

in nutrition and dietetic mainly clinically oriented with a 45 academic hours, with 100% nutrition instructions, but is still elective and can't cover the broad field of nutrition science. Although there is no required minimum of compulsory hours in nutrition recommended by the Healthcare authorities to be included into medical training, and each university determines independently the content of nutrition training it offers it is clear that there are not enough classes on different nutrition topics included in the curricula of medicine. The American Society for Clinical Nutrition (ASCN) recommends minimum 44 h included in medical curricula as

compulsory classes to be devoted to nutrition instructions. The recommendations are based on a survey of curriculum administrators and nutrition educators among US medical schools, but only 34 of the surveyed US medical schools (27%) had a separate, required nutrition course.

(2) In the Faculty of Medicine the existing classes associated with nutrition instructions are vertically integrated throughout almost all preclinical disciplines, but there is lack of a common framework that unites nutrition during the entire undergraduate medical education.

**Table 1.** *Distribution of contact hours in nutrition among types of medical curriculum courses.*

<b>Courses integrating nutrition knowledge in medical curriculum</b>	<b>total classes/ lectures/</b>	<b>Proportion of nutrition related classes (%)</b>
<b>Compulsory</b>		
Physiology	225(105/120)	49
Biochemistry	180(90/90)	37
Hygiene and ecology	120(60/60)	30
Pediatrics	210(90/120)	20
Pathophysiology	120(60/60)	16
Microbiology	135(75/60)	15
Chemistry	90 (45/45)	15
Human Biology	105(45/60)	12
<b>Optional</b>		
Nutrition & Dietetic	45(30/15)	100

Numerous studies clearly demonstrate the vital role of nutrition for optimal health and disease prevention and the importance of nutrition in the practice of medicine. It has been documented that cardiovascular diseases, obesity, diabetes, hypertension and renal diseases can be treated, delayed or prevented by proper nutrition therapy. (6) Nutrition is not only of critical importance but it is cost effective as a medical intervention.

All this confirm the need of strengthening medical nutrition training by developing different modules covering clinical nutrition and dietetic, community nutrition and public health. The purpose of the nutrition education at undergraduate level at Faculty of Medicine aims at empowering medical students once graduating to manage the risk-preventable illness and the associated costs, particularly in cardiovascular diseases (CVD), and the related conditions of obesity and diabetes at individual and population level. The interdisciplinary nature of the nutritional sciences allows longitudinal and horizontal integration of nutrition sciences into medical curricula. The nutrition curriculum should cover three main courses: a) principle and basis of nutrition sciences; b) clinical nutrition and nutritional support and c) community

nutrition and nutrition policy. The three main modules will be optional and will start at the second year and will continue through third and fourth year of medical training. The first module is designed to provide basic knowledge about foods, nutrients, physiological requirements and nutrition through lifecycle. The second module will improve student's capacity of nutrition and anthropometric assessment and nutrition/diet/lifestyle counseling. The third module will be public health oriented and will increase the knowledge in respect to community nutrition, socioeconomic factors and nutrition interventions at population level and will build capacity of medical doctors to work in the field of public health and international nutrition.

## **CONCLUSION**

The nutrition training at the Faculty of Medicine is consistently integrated throughout the course of medicine but a substantial portion of the total nutrition instruction is still occurring outside courses specifically dedicated to nutrition. The nutrition training is more clinically oriented and less to public health problems.

The amount of undergraduate nutrition education should be extended and should provide more complete and comprehensive information and

practical skills in all aspects of nutrition of the individual and the population groups.

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IVANOVA L., et al.

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