IMPROVING PUBLIC HEALTH THROUGH NUTRITION EDUCATION AND RESEARCH: SUPPORT TO PROACTIVE PARTNERSHIP TO PRODUCE QUALITY EDUCATION STANDARDS FOR NUTRITIONISTS

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Abstract

Education and nutrition are important fundamental conditions and resources for improving public health. Unhealthy nutrition is one of the key risk factors for developing main non-communicable diseases. Studies have confirmed that the country’s population has unhealthy eating habits. Dietetics is not included in the curricula of Macedonian Medical Faculties. In order to improve population health, by improving the quality of nutrition education and research, we determined the following objectives: - Supporting proactive partnership in defining national standards for the formulation of Doctoral study program for the innovative technology for food and nutrition"; - Forming a set of competencies upon completion of studies; - Application of information and communication technology (ICT) and e-learning.

Analyzing the results of numerous scientific findings that confirm the important role of food and nutrition in health promotion and prevention of nutrition-related diseases, we developed the Doctoral study programs for the innovative technology for food and nutrition. The model of designing, planning and implementation of curriculum is in accordance with Bologna Declaration (1999), Dublin description (2004), EC “Tuning” project (2009), European standards for improvement of academic and practical curricula (2010) and DIETS2 advanced competencies (2013). Proactive work with the industry and private companies is related to practice placement. Innovative application of ICT, e-learning and creating a website are intended for collaboration with other national and European nutrition networks.

This doctoral study program will allow: education of our own nutritionists who will be able to meet the domestic and global issues relating to food and nutrition, inclusion of the researchers and experts in the projects and in the: healthcare teams, HEIs, food industry and they will be qualified to be responsible for production of healthy, quality, safe, environmentally friendly and affordable food for domestic and export needs. Also, these nutritional experts will contribute to changes in public health policy and health education strategy (2014-2020) in the area of “Health Enhancing through Nutrition Education”.

Key words: Nutrition education, Research, Descriptors, Competencies, Doctoral degree.

1. Introduction

In recent years, the importance of healthy nutrition for the population health as well as the economic aspect of producing healthy and nutrient rich food accessible to all has been in focus worldwide.

Consequently, numerous nutrition and food technology education programs started being implemented in higher education institutions across the United States and Europe. Higher education institutions in the United States currently focus particularly on introducing Food Technology in the academic studies of nutrition, in order to enforce nutrition professionals in the innovative technologies, reformulation of food and facilitation of the existing food technology. This is done in accordance to the Academy of Nutrition and Dietetics (formerly the American Dietetic Association). Moreover, two key summits took place in 2011, one in Moscow, Russia focusing on healthy lifestyle entitled: “First Global Ministerial Conference on Healthy Lifestyles and Non-communicable Disease (NCD’s) Control” and one in New York, USA, entitled: “UN High-level Meeting on NCD’s”. In addition, Roma Declaration on Nutrition and Framework for Action was adopted at the “Second International Conference on Nutrition” in 2014 (FAO/WHO, 2014).
Unhealthy nutrition is one of the key risk factors for developing main non-communicable diseases in the Republic of Macedonia. Studies have confirmed that the country’s population has unhealthy eating habits. Dietetics is not included in the curricula of Macedonian Medical Faculties.

Analyzing the results of numerous scientific findings that confirm the important role of food and nutrition in health promotion and prevention of nutrition-related diseases, we developed the academic study programs for food science and nutrition. The Republic of Macedonia experienced a turning point for the nutrition profession in 2009 when the Macedonian Steering Committee for the Advancement of Healthcare was launched at the Ministry of Health. After numerous discussions about the deficit of professional staff in the country, the experts of the Steering Committee emphasized the need for an academic study for the innovative technologies, food science, nutrition and dietetics. For the first time tangible results were seen and laws and regulations have been produced. The most substantial product of the work of the Committee is the so-called “Green Book” which integrated all necessary national healthcare reforms [1].

At the same time, the University St. “Kliment Ohridski” in Bitola started developing a new academic curriculum in the field of nutrition. In 2010, the University introduced the Bachelor’s Degree program which currently enrolls more than 350 undergraduate students. The Program for Nutritionists at the Faculty of Technology and Technical Sciences Veles is offered in three different towns across the country: Veles, Bitola and Kicevo.

2. Academic curriculum in the field of nutrition

2.1 The curriculum

A career in Nutrition within the State University “St. Kliment Ohridski” of Bitola is established within two main areas of work: one is Nutrition and Dietetics and the other Food Technology and Biotechnology. With the installment of the program in 2010, a new vocational profile of multidisciplinary academic staff was introduced, entitled “Engineers of Technology - Nutritionists”. The new title was recognized and acknowledged by the European Federation of the Associations of Dietitians.

The need to introduce a Bachelor’s and Master’s degree (1st and 2nd Bologna cycle qualifications) of multidisciplinary studies in nutrition in the Republic of Macedonia is a result of numerous scientific findings that confirm the lack of knowledge on national level for the important role of food, innovative food technologies, and proper nutrition. In addition, one of the main goals for creating the program was the need to have proper staff in the country that will work in the domain of food science and facilitate production and processing, so existing issues can be addressed, and new ones will be prevented from arising. In summary, it is foreseen that the new nutrition professionals will assist in education, health maintenance, prevention and treatment of diseases on individual and national level.


The first two Bologna cycles have been associated with the following European Credit Transfer System (ECTS) credit ranges:

- Bachelor’s degree, or 1st cycle qualifications that typically include 240 ECTS credits equivalent to level 6 of European Qualifications Framework (EQF).
- Master’s degree, 2nd cycle qualifications that typically include 60 and 120 ECTS credits equivalent to level 7 of EQF.

The academic curricula and structures of the practice placements of both Bachelor’s and Master’s programs are based on the framework for ECTS calibration [2, and 4] and the following statements of the European Federation of the Associations of Dietitians (EFAD): the European Dietetic Benchmark Statement (EDBS) [5], and the European Dietetic Competencies and their Performance Indicators (PIs) [6].

The Master’s Degree Program is based on the model of the European Commission/EACEA: Thematic Network for Dietetics (DIETS2) (2010-2013) [7]. The Work Package 2 (WP2) of DIETS2 developed advanced level benchmark competence statements for European dietitians entitled European Dietetic Advanced Competences (EDAC) [7]. The model of design, planning and implementation of the curricula in the 1st and 2nd cycle qualifications is based on the methodology proposed in the Dublin description of program design (2004) and the EU Educational Structures project “Tuning” (2009). In 2011, Public Health “HEPA Macedonia” National organization for the promotion of health became an associate member of the European Thematic Network for Dietetics and a team member of the DIETS2/WP2 “Second and third cycle competences for dietitians”. The membership and recognition acquired has contributed to a great degree in the development of the profession of nutrition and dietetics within the Republic of Macedonia [8].

2.2 The theoretical part of the study program

Study program is divided into the four sub-groups:  

2.2.1 Basic Sciences: biology, physics, chemistry, nutritional biochemistry (cell and molecular basis of disease
2.2.2 Food Science, Food Technology and Science of Nutrition and Dietetics:

a) Food Science and certain aspects of Food Technology: nutritional values of common foods, the innovative technologies for food, reformulation of food production, food processing and biotechnology.

b) Science of Nutrition and Dietetics: nutrition care model and process, methodology of nutritional assessments, examination of dietary intake, nutritional testing, modification of diet in people with different dietary habits, cultural and socio-economic conditions, hygiene of nutrition for healthy and sick people, medical terminology and classification of diseases, medical nutrition therapy (MNT), common types of diet therapy and diagnostic procedures, modeling and optimizing in nutrition, techniques of food preparation, sensory evaluation, microbiology, food safety and hygiene of food, practice based on data and evaluation of practice.

2.2.3 Administration of Food Services: management, planning and production of food legislations (NASSP), economics, marketing, food equipment, packaging and distribution.

2.2.4 Public Health Nutrition: nutrition and physical activity, health promotion, nutritional epidemiology, planning, coordination and evaluation of public health strategies and policies, sociology, ethics, communications and cultural aspects of nutrition.

Further, to improve population health, by improving the quality of nutrition education and research at advanced level, in 2014 we determined the following objectives:

- Supporting proactive partnership in defining national standards for the formulation of Doctoral study program for the innovative technologies for food and nutrition;
- Forming a set of competencies upon completion of studies;
- Application of information and communication technology (ICT) and e-learning.

Proactive work with the industry and private companies is related to practice placement. Innovative application of ICT, e-learning and creating a website are intended for collaboration with other national and European nutrition networks.

In addition, the Master and Doctoral programs are especially focused on the scientific and research aspects of the profession and the students will be able to develop various types of research, methodology and critical thought on the matter.

Doctoral study program will allow education of our own nutritionists who will be able to meet the domestic and global issues relating to food and nutrition, inclusion of the researchers and experts in the projects and in the healthcare teams, university and research institutions, food industry and they will be qualified to be responsible for production of healthy, quality, safe, environmentally friendly and affordable food for domestic and export needs. Also, these nutritional experts will contribute to changes in public health policy and health education strategy (2014 - 2020) in the area of “Health Enhancing through Nutrition Education”.

2.3 Implementation and results

With more than 350 students enrolled, the Bachelor's academic study program has shown to be successful and increasingly popular with rising interest among the youth. The study program lasts 8 semesters or 4 years, each semester totaling 60 ECTS credits. The lessons are conveyed by an academic staff with multidisciplinary vocational profiles ranging in the areas from nutrition medicine and dietetics, food technology and biotechnology, to natural and computer sciences. Both the academic staff and the students of nutrition have taken part in various activities including the Tempus collaborative research project of the European Commission entitled: Foodlinks, focused on the link between the academia and the food industry. Another domestic project financed by the University Research Centre “St. Kliment Ohridski” that joined academic staff and students was “Monitoring of Eating Habits and Physical Activity Behavior among the Macedonian Population”. It was implemented countrywide in 2011/2012. Some of the many project outcomes were six scientific articles published in the international journals [9]. The students were actively involved in the initial process of conducting the survey for the research. Also, with 60 postgraduate students enrolled, the Master study has shown rising interest among graduated nutritionists.

3. Conclusions

- The first national "cross-sectional" study in the Republic of Macedonia with title: “Monitoring of Eating Habits and Physical Activity Behavior among the Macedonian Population” conducted by the Faculty staff (2011/2012) with the aim to analyse and evaluate data on socioeconomic differences in educational levels and income on the consumption of the main healthrelated foods and physical activity levels of the population (10–64 years) is essential for planning and evaluation of the NCDs prevention programme. Also, the research study provides results for health-policy decision-making and can be used for evaluating specific health promotion and NCDs prevention programmes.
- In line with the strategic development plan of the "St. Kliment Ohridski" University, the next step for the program would be further improvement and development of the role of nutritionists with Bachelor's and Master's degrees (1st and 2nd Bologna cycle qualifications of multidisciplinary nutrition studies) in the healthcare strategy and in the prevention of NCD's [10], but also in the domain of food production, food technology and biotechnology.

- With the improved number of nutritionists in the country, an opportunity arises for development of a National association for nutritionists in the Republic of Macedonia.

4. References


