

## Student Contribution

# Postsecondary Nutrition Program Education in the Hashemite Kingdom of Jordan: A Brief Report

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## ABSTRACT

**Background:** Obesity is a growing public health concern in Jordan, which has experienced a noticeable transition associated with increased morbidity and mortality, due to nutrition-related noncommunicable diseases. The nutrition profession has also advanced in Jordan, but the expansion is not as robust as changes happening in other healthcare sectors. This brief report examines the current nutrition-affiliated programs offered in postsecondary institutions in Jordan. **Methods:** An electronic review of university websites and department webpages of all private and public universities in Jordan was conducted to identify the nutrition programs offered. **Results:** A total of 29 universities were identified; 10 public and 19 private universities. Eight universities (three private and five public) offered nutrition degree programs; all eight offered bachelor's degrees in human nutrition. One offered a PhD in nutrition and dietetics, and three offered master's degrees in nutrition and food sciences. **Discussion:** Postsecondary education in Jordan is progressing; however, few institutions offered nutrition education programs that prepare students to practice. The nutrition profession still lacks an official organization in Jordan compared to its European and U.S. counterparts. Establishment of a nutrition and dietetics organization that cooperates with universities to develop national recognitions and guidelines is necessary.

**Keywords:** Higher education, Jordan, nutrition, public health

## Background

Jordan is a country located in the Eastern Mediterranean region in an area of political conflict bordered by Saudi Arabia, Iraq, Syria, the Palestinian Territories, and Israel. In 2017, the total population of Jordan was approximately 10 million, with 42% residing in the capital Amman. Jordan is largely arid with very little arable land; fresh water is scarce; and when compared globally, local regions are dependent on imports for the majority of

food commodities.<sup>[1,2]</sup> Beginning in 2010, Jordan's Ministry of Health and the World Health Organization (WHO) implemented nutrition-based strategies to incorporate nutrition objectives into the national development plan, strengthen consumer protections with food security and food safety programs, and emphasize prenatal, infant, and childhood nutrition programs.<sup>[3]</sup>

Obesity has become a significant health issue in the Middle East and North Africa (MENA) region. The Eastern Mediterranean region was ranked as having the third highest BMI after North America and Europe, with the highest levels of obesity in the countries of Egypt, Bahrain, Jordan, Kuwait, Saudi Arabia,

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|  | <b>DOI:</b><br>10.4103/efh.EfH_278_18   |

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**How to cite this article:** Bakri AN, Bechard L, Bernstein J, Aboul-Enein BH. Postsecondary nutrition program education in the Hashemite Kingdom of Jordan: A brief report. Educ Health 2020;33:114-7.

**Submitted:** 23-Oct-2018  
**Accepted:** 17-Sep-2020

**Revised:** 03-Sep-2020  
**Published:** 16-Mar-2021

and United Arab Emirates. Jordan faces a double burden of malnutrition, which is characterized by micronutrient deficiencies and obesity. In Jordan, the prevalence of obesity could be attributed to the increase in urbanization and changes in income, food availability, and food consumption patterns.<sup>[1,4,6]</sup> Approximately 84% of the population lives in an urban area, and this urbanization is linked with an increased consumption of convenience foods, refined sugar, animal protein, lower consumption of whole grains and dietary fiber, and physical inactivity. The population has transitioned to a more westernized diet that is high in calories, fats, sugars, and refined carbohydrates.<sup>[5]</sup> According to the WHO, 70% of Jordanians consume at least one serving of cooked or raw vegetables 7 times/week, while 35% of the population consumes at least one serving of fruit daily.<sup>[7]</sup>

Dietitians play an important role in the healthcare profession; they are responsible for assessing the nutritional needs of patients and clients, developing and implementing nutritional care plans, providing nutrition interventions, and monitoring and evaluating diet and nutritional status. Dietitians also provide nutrition-focused preventive services in the community and help develop policies and initiatives related to disease prevention and health promotion.<sup>[8]</sup> In addition to the changes in dietary patterns and urbanization, Jordan has witnessed a development in postsecondary education in nutrition, and the profession has progressed and gained some legal and official recognition through the release of rules in 1999 that regulates the practice of the profession and allowed certified consultation and private practice.<sup>[6]</sup> However, the changes in the profession of nutrition have been hindered by poor professional oversight and lack of training opportunities. Examples of model nutrition organizations include the U.S. Academy of Nutrition and Dietetics, the British Nutrition Foundation, the Canadian Nutrition Society, and the Nutrition Society of Australia. A lack of an over-arching nutrition organization may be inhibiting the progression of the nutrition profession in Jordan.<sup>[6]</sup> Considering the critical role of dietitians in healthcare and the developments and changes in nutritional status in Jordan, we posed this question: What nutrition education and training programs are available in Jordanian higher education, and how is the nation equipped to meet the increased need for nutrition professionals?

In the last two decades, postsecondary education in Jordan has progressed with the development of new academic programs, contemporary teaching and learning practices, and partnerships with various foreign universities. These developments were associated with an increase in the number of universities (private and public), enrolled students in these universities (estimated to be 236,000 students), faculty members, and administrative staff and governmental support.<sup>[9]</sup> Jordan's higher education system is known for its education standards in the region, which has led to an increase

in the number of foreign students enrolled at Jordanian institutes.<sup>[9]</sup> Within these developments, the profession of dietetics and nutrition has also progressed and changed but at a slow pace.<sup>[6]</sup> This progression has been hindered by poor regulation and lack of professional recognition for dietitians within the healthcare continuum. Compared to Western counterparts, the nutrition profession in Jordan lacks official dietary guidelines, organizational structure, in-service training, internship programs, and continuing education opportunities. Therefore, the purpose of this report is to identify the current nutrition education programs offered in postsecondary institutions in Jordan and to discuss the nutrition profession within the Jordanian context.

## Methods

A comprehensive list of universities was obtained from the Jordanian Ministry of Higher Education website.<sup>[10]</sup> An extensive systematic search and review of websites, department homepages, and academic programs' webpages of all the private and public universities in Jordan was performed to identify all nutrition programs offered. The review was conducted using Arabic and English languages. For the purposes of this report, only 4-year universities that offered nutrition degree programs (bachelors, masters, and/or doctorate) were included; community colleges and vocational schools were excluded. No ethical approval or clearance was found to be necessary and therefore not obtained for this report.

## Results

Results of the electronic review are presented in Table 1. A total of 29 universities in Jordan were identified; 10 public and 19 private universities. Among the 29 universities, eight offered nutrition degree programs (5 public universities and 3 private). All eight offered undergraduate nutrition-affiliated degrees. Among these eight universities, the University of Jordan offered a doctorate (PhD) program in human nutrition and dietetics, and the University of Jordan, Mutah University, and the University of Science and Technology offered master's degrees in human nutrition and dietetics. Al-Zaytoonah University of Jordan, Jerash University, Muta University, University of Science and Technology of Jordan, and Al-Balqa Applied University offered degrees in nutrition and food technology. The Hashemite University, American University of Madaba, and Petra University offered degrees in nutrition and dietetics. The University of Jordan offered a degree program in both human nutrition and dietetics and food sciences and technology. All eight Jordanian universities offered a nutrition program that allows students to practice the profession of nutrition after they graduate according to the criteria set by the Jordanian Ministry of Health.

**Table 1: List of nutrition-affiliated programs offered in selected universities in Jordan**

| College/university                             | Private/Public | Program name                     | Degree(s) awarded          |
|--|----------------|----------------------------------|----------------------------|
| The University of Jordan                       | Public         | Human Nutrition and Dietetics    | Bachelors, Masters and PhD |
| Muta University                                | Public         | Nutrition and Food Technology    | Bachelors and Masters      |
| University of Science and Technology of Jordan | Public         | Nutrition and Food Technology    | Bachelors and Masters      |
| The Hashemite University                       | Public         | Clinical Nutrition and Dietetics | Bachelors                  |
| Al-Balqa Applied University                    | Public         | Nutrition and Food Technology    | Bachelors                  |
| Al-Zaytoonah University of Jordan              | Private        | Nutrition                        | Bachelors                  |
| Princess Sumaya University for Technology      | Private        | Nutrition and Food Technology    | Bachelors                  |
| Ajloun National University                     | Private        | Nutrition and Dietetics          | Bachelors                  |

## Discussion

The results of the review of programs show progressive development in nutrition education programs in Jordan compared to neighboring Arab countries.<sup>[11]</sup> However, Jordan is currently located in the middle of a regional conflict, which has affected the agricultural sector and the import/export market, due to the imposed restriction on the agricultural export market to Iraq as well as an influx of refugees. Urbanization has increased with approximately 75% of the population living in an urban area, and this has been associated with changes in dietary behavior that is due to changes in food availability. This might have resulted in a shift toward increased consumption of fast food, higher calorie intake, and lower physical activity.<sup>[4,12,13]</sup> This shows the need for the development of a pathway for professionals to review and implement comprehensive nutrition programs that can reach the Jordanian population.

Despite the development of the healthcare system, the nutrition profession has not gained a suitable position in the healthcare continuum; dietitians are not recognized as part of the healthcare team and are not given the opportunity to contribute in nutrition-related decisions. Physicians tend to overlook dietitians' education and background, which could create a patient care gap and lack of congruent relationship between dietitians and physicians.<sup>[5]</sup> To shape the profession of nutrition and improve eating habits and physical activity in the public health, it is important to build a strong nutrition and healthcare education infrastructure. Public health leadership in Jordan should develop national recognition and regulatory guidelines that provide nutrition professionals organizational structure, in-service training, and continuing education opportunities.

Compared to Europe and North America, public health nutrition programs in higher education in South Asia and the MENA region are relatively scarce.<sup>[11,14]</sup> The internal foundation

for public health nutrition is present in Jordan yet could benefit the population by taking several critical steps forward. We recommend an academic coalition between Jordanian university public health nutrition programs be formed to address these objectives: (1) Establish a steering committee to investigate and support the formation of a national dietetics and nutrition organization, (2) develop and recommend national standards for required credentialing among nutrition professionals, and (3) liaise between nutrition professionals and Jordanian physician organizations to identify the gaps in interprofessional acceptance and understanding. Providing programs that generate professionally prepared public health nutrition graduates is a foundational piece of a much larger solution to the public health issues presented here. Progressive steps are required if Jordan's professional nutrition and dietetics community is expected to contribute meaningfully to noncommunicable public health issues.

The recommendations outlined illustrate the need for professional organizational support, regionally specific to Jordan, to support the native nutrition profession and its practitioners, that is culturally congruent to the Jordanian population. Provisional meal planning exchange lists were developed for traditional Jordanian dishes.<sup>[15,16]</sup> Such lists are essential to native dietitians as they form the basis for which the development of food guidelines can be achieved. Therefore, it is important to note that having a well-defined education program and a culturally congruent native dietetic organization in Jordan could help dietitians to develop community-based programs that target the nutritional issues of the nation, including inactivity as well as monitoring the prevalence of obesity and overweight.

Postsecondary education in Jordan has been progressing with the foundation of many public and private universities. Eight institutions offered nutrition education programs that prepare the students to practice the profession after they graduate.

However, the profession is still lacking an official nutrition organization. To give the profession its proper position in Jordan's healthcare system, it is important to establish a dietetic organization that will cooperate with the universities to develop national recognitions and guidelines as observed in other neighboring Arab countries such as Qatar University, American University of Beirut, and the United Arab Emirates University.<sup>[17]</sup> This recognition will allow native Jordanian dietitians to be an integral part of the decision-making in the nutrition care process and will help them develop culturally appropriate guidelines and exchange lists that can be used to address public health nutrition challenges in Jordan.

### **Financial support and sponsorship**

Nil.

### **Conflicts of interest**

There are no conflicts of interest.

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