



Institut National de Santé Publique, d'Épidémiologie Clinique et de Toxicologie

POLICY BRIEF

NUTRITION EPIDEMIOLOGY & TOXICOLOGY AXIS

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Title: Nutrition Research in Lebanon**Authors:** Issa C, Saadeh D, Rizk R, Rizk M**SUMMARY**

Like many other health professions, the nutrition profession is constantly evolving, resulting in the emergence of new extended roles of the dietitian, requiring new skills and competencies. Challenges to this profession make it difficult to set regional priorities for policies and research development. In Lebanon, it is imperative to make adjustments to nutrition education and practice to cope with these changes and improve work environment for dietitians.

Based on evidence, INSPECT-LB produced recommendations regarding several aspects of the nutrition profession including the development factors of the profession, the recognition of specialized dietitians, promote and encourage research and continuing education.

POLICY IMPLICATIONS/MAIN RECOMMENDATIONS TO THE MINISTRY OF PUBLIC HEALTH

- Identify all the stakeholders engaged in nutrition and food safety.
- Mapping of existing initiatives, current interventions, and future projects related to Nutrition and Food safety among all stakeholders.
- Mapping of existing policies and legislations.
- Supporting information sharing.
- Updating the existing situation analysis on nutrition in Lebanon.
- Activating and expanding a national platform on nutrition to plan, coordinate, and implement initiatives that support healthy eating in Lebanon.
- Mapping of current research and academic groups working on topics related to promotion of healthy diet, and potentially empowering collaborations.
- Encourage leadership ability and continual professional development among dietitians.
- Develop a national plan/strategy for promoting healthy eating in Lebanon.

SUMMARY OF THE RESEARCH AXIS OF THE NUTRITION UNIT AT INSPECT-LB**Background**

Dietitians make a substantial contribution to health-delivery systems in primary care, acute care and community care settings. They are nowadays more involved in policy development for human resources for health or in strategic decision-making. Moreover, previous studies worldwide have evaluated the association between diet and health problems in general and allergic diseases and obesity in particular. [1-3]

Separate initiatives are being planned and implemented at the level of Nutrition and Food safety in Lebanon. However, these are neither coordinated nor integrated into a national strategy.

The optimization of nutrition education and practice is expected to have positive effects on the patient's health.

The axis of the Nutrition Unit at INSPECT-LB is currently divided into eight major interests:

- Infant and Young Child Feeding (IYCF);
- Child and adolescent nutrition;
- Food standards, labeling and marketing;
- Food toxicology;

- Eating disorders;
- Sports nutrition and addiction to exercise;
- Nutrition in people who use/inject drugs undergoing treatment; and
- Nutritional Research.

Infant and Young Child feeding (IYCF)

Current situation: In Lebanon, there is evidence that IYCF practices are not in line with WHO recommendations, however there are no updated national statistics on IYCF indicators.

Previous work: A recent research conducted by members of INSPECT-LB on a project entitled: "Breastfeed for a Healthier Lebanon", funded by the Lebanese University Research Grants Program, which studied breastfeeding and complementary feeding practices and their relationship with health of infants and toddlers. This project has led to four publications of which one is under press and another has been recently accepted. [4, 5]

Action plan: Updating the national situation analysis on IYCF including complementary feeding to be able to identify and track nutritional status of children under five.

Child and adolescent nutrition

Current situation: Lack of updated data or national statistics on school children's (5-18 years) and university students' nutrition and nutritional status.

Previous work: A cross-sectional study took place in 19 Lebanese private schools, using a random multi-stage cluster sampling process. The objective was to assess dietary and physical activity behaviors of adolescents and their relation with the different obesity classes. This work has led also to four publications. [6-9]

The Lebanese National Conference for Health in Universities study group had conducted a cross-sectional study and has published a number of articles, using a proportionate cluster sample of Lebanese students in public and private universities to whom a standardized questionnaire was distributed.

The objective of the first article was to identify health risk behaviors among university students in Lebanon. [7]

The design of both the second and third articles aimed at analyzing intake patterns among university students in Lebanon by using two different approaches. The first approach was by factor analysis of food items and groups as well as cluster analysis which concluded that male university students had a higher consumption of westernized dietary pattern as compared to female university students who adopted more of a vegetarian type diet. [8] The second approach was by using a Lebanese Mediterranean score to measure the adherence to a Lebanese Mediterranean Diet. The results of this study were in line with the previous one and showed that adherence to the Lebanese Mediterranean Diet was lower among men as compared to women. [9]

Furthermore, another cross-sectional study has been conducted among school children aged from 8 to 12 to evaluate the association between diet and symptoms of Allergic Diseases in Lebanon. [10]

Action plan: Updating the national data on nutritional status and eating habits of school children (5-18 years) and university students.

Food standards, labeling and marketing

Current situation: Absence of an updated food composition table for Lebanon, especially composite dishes.

Previous work: Previous research works showed that part of the strategy for counteracting what was described as the "dangers of diet simplification" would be to sustain and promote the preparation of composite dishes rich in unrefined starches and vegetables and low in saturated fats and sodium, especially in segments of the population going through the nutrition transition. The nutrient profile perspective suggests that the rich traditional cuisine heritage of Lebanon has the potential to improve dietary diversity and healthy eating. [11]

Moreover, further results obtained in a population sample typical of developing countries were in agreement with some other studies performed in industrialized countries, and thus supported the concept that adherence to a Mediterranean-type diet was associated with reduced general and abdominal adiposity. Overall, it was suggested that the reintroduction of traditional dietary habits in Mediterranean countries could slow down the increasing trend in overweight and obesity, and thus prevent detrimental health consequences in populations of this region. [12]

Furthermore, a related work showed that Mediterranean foods were preferentially selected by a computer-based model aimed at optimizing the nutritional quality of individual diets. Indeed, Lebanese dishes with the most favorable profile were those with a high content of ingredients typical of the traditional Mediterranean diet. In particular, vegetables and unrefined starches were predominant in Lebanese composite dishes. [13]

Action plan: Update the Lebanese food composition database; implement a comprehensive user-friendly front packaging and labeling scheme; and work on the creation of a new legislation encompassing the regulation of the marketing of certain food items to children and adolescents.

Food toxicology

Current situation: Absence of a situation analysis of pesticide residues in fruits and vegetables produced in Lebanon.

Current work: Organic farming is an agricultural production system that focuses on growing high quality produce that are safe for both humans and the environment. It is the fastest growing sector along with environmental health and awareness. Most EPA (Environmental Protection Agency)-registered pesticides are prohibited in organic production; however, organic foods are grown, transferred and processed in an environment where pesticides and other harmful compounds are generally used. Pesticide residues in organic products are primarily related to environmental contamination. Unintentional contamination or intentional spraying of organic fruits and vegetables may occur during growing, storage, transfer or processing. Pesticide residue analysis in foods and the environment are important control mechanisms. Thus pesticide residues are being analyzed in a total of 400 samples of locally grown organic fruits and vegetables.

Action plan: Analyze pesticide residues and glyphosate in fruits and vegetables produced in Lebanon.

Eating disorders

Current situation: Absence of the prevalence of eating disorders in Lebanon and the Middle East. Lack of research in the field of eating disorders (ED) in Lebanon.

Previous work: Eating disorders are serious psychiatric disorders, which usually have their onset in adolescence. The DSM-V currently lists four separate categories of ED: anorexia nervosa, bulimia nervosa, other specified feeding and eating disorders, and binge eating disorder. A pilot study including approximately 700 Lebanese students aged 18 to 24, has already been realized. The risk of suffering from an ED was 55.67% (compared to 6% worldwide).

Action plan: Publish a study on the prevalence of eating disorders including the biggest sample taken in the Middle East. This research will become a reference in the field of eating disorders in the region.

Sports nutrition and addiction to exercise

Current situation: Lack of research in the fields of sports nutrition and addiction to exercise in Lebanon and the Middle East.

Previous work: While regular exercise is known to generate multiple benefits, uncontrollable excessive exercise behavior can have a negative impact on health. [14, 16]

This addiction mainly affects athletes with a prevalence ranging between 7% and 42%. [15]

Exercise addiction is often associated with eating disorders. [18, 19]

A study that assessed the prevalence of exercise addicts and eating disorders in Lebanese high-level athletes and that investigated the possible associations between exercise addiction and eating disorders has been conducted.

Action plan: Finalize the article behind the study mentioned above in order to publish it.

Nutrition in people who use/inject drugs undergoing treatment

Current situation: Lack of research exploring the nutritional status, eating habits and behaviors in people who use/inject drugs undergoing treatment by detoxification and opioid substitution treatment (OST) in Lebanon and the region.

Current work: 1) a cross-sectional study is being conducted to assess the nutritional status, eating habits and behaviors of people who use/inject drugs undergoing treatment undergoing both modalities of treatment. It also aims to estimate the prevalence of malnutrition in this patient-population and explore the determinants of poorer nutritional status including sleep, physical activity level, food knowledge and food addiction; 2) a qualitative study through focus groups discussions and key informant interviews, to have an in-depth understanding of the eating habits and behaviors of people who use/inject drugs undergoing treatment and factors influencing their eating patterns including the type of drug, and the treatment option, in addition to the factors mentioned above. The ultimate aim of both studies is to inform the development and delivery of a targeted nutrition intervention program to be implemented in detoxification and OST centers in Lebanon.

Action plan: Findings will be reported in two articles. A third article reviewing the international literature pertaining to this subject, is being finalized.

Nutritional Research

Current situation: Different research institutions (universities and government) have data that is not always being published or shared with other stakeholders, which is sometimes creating redundancy in data collection and therefore lack of efficiency.

Moreover, there is a weak or unstructured collaborations between research and governmental institutions. There is also absence of updated national data on nutrition and food consumption.

Action needed:

- Creating a national research database that is easily accessible to all stakeholders, for both ongoing and published projects;
- Developing a joint national research agenda which will help in getting national and international research funding and would respond to identified research needs; and
- Translating research findings into real community interventions to bridge the gap between research and practice by encouraging research implementation.

Conclusion

The nutrition axis of INSPECT-LB is aiming to conduct future research projects related to the nutrition profession in Lebanon. The findings related to these projects may be used to guide health professional's managers and to guide future research in the area.

Members of INSPECT-LB nutrition axis are ready to discuss any of these suggestions with the Ministry of Public Health, and present all needed documents and ideas. Hoping that these efforts would optimize the nutrition practice and ultimately, the patient's health.

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