Life Food Diet: A Protocol for the Promotion of the Mediterranean Diet

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Received: 30 May 2018; Accepted: 1 June 2018; Published: 30 June 2018

Abstract. Background: the potential benefits for the health arising from the Mediterranean Diet (MD) are supported by several scientific evidences: the MD helps to reduce the LDL cholesterol levels, to prevent and/or control conditions dramatically spread out such as diabetes, overweight and obesity. A healthy and balanced diet constitutes an incisive instrument of preventing the chronic diseases, the cardiovascular risk factors and certain cancers.

Objectives: The “Life Food Diet” (LFD) Project is aimed at promoting worldwide the MD, along with all benefits arising out from the latter for the Public Health. The project involves several professionals and sectors, within the context of a multidisciplinary cooperation, in which culture/research and catering/food sector can ensure the quality of the products.

Methods: The cooperation among the players operating in the food sector, operators of the catering sector and companies of the entire Mediterranean Sea area, in addition to the endorsement of the Sicily Region shall be required. The certification so-called “Life Food Diet” can be granted to products which comply with the MD and which meet the specific requirements imposed by the applicable regulation.

The intervention: The products shall be subject to periodic checks to be implemented by the University of the countries involved in the project. The certification will be also issued in favor of restaurateurs, restaurants, entities, collective catering etc., which express the value under the MD, by demonstrating the use of LFD certified products. Trainings (Master, refresher trainings, Master Class etc.), as well as optional teaching activities at the universities of the countries involved - that allow to change the way of communicating about the human nutrition, which is an indispensable tool for prevention - shall be established.

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**Conclusions:** The establishment of the LFD certification will improve the promotion of a proper nutrition, by favoring virtuous lifestyles allowing the decrease of the economic charge of the chronic degenerative diseases.

**Keywords:** Mediterranean Diet; Food Quality; Diet, Food and Nutrition; Primary Prevention; Mediterranean Sea; Sicily.

**Introduction**

The nutrition is one of the leading Determinants of Health. Indeed, it has been demonstrated that the lifestyle and the food choices act incisively in the possibility of avoiding the development of diseases, controlling their evolution and even provoking their onset. Combined with other behavioural determinants such as adequate physical activity and the control of other risk factors, such as the smoking or the alcohol, the nutrition constitutes, indeed, a fundamental element in preventing many pathological conditions, as well an instrument useful to manage and treat many others pathological conditions (1). According to the World Health Organization, about a third of cardiovascular diseases and cancers could be avoided thanks to a healthy and balanced diet (2).

An adequate nutrition and health, as well as the fundamental human rights, are clearly correlated factors: the health status of the populations, both rich and poor, of the planet is strongly influenced by the level and quality of nutrition. The World Health Organization estimates that nearly three million lives could be saved each year in the world, if the consumption of fresh fruit and vegetables was sufficient (1).

On the contrary, currently, due to the sociological and demographic changes taking place, we are witnessing a removal of local populations from the mediterranean food model (3). This is directly linked to the increase in diseases resulting from poor eating habits and incorrect lifestyles. Many studies in literature affirm the inseparable link between lifestyle and health. The dietary factor is an important key factor of health of modifiable type. It is demonstrated that the Mediterranean Diet (MD) is associated with benefits for human health and is decisive in preventing numerous chronic-degenerative diseases, unfortunately today in constant and dramatic increase. Chronic diseases are, indeed, the main cause of death in most of the world.

Reference is made to a broad and heterogeneous group of diseases which includes heart disease, stroke, cancer, diabetes and chronic respiratory diseases, which have a very important burden of disease globally. The Top 10 causes of death of the World Health Organization shows that the most frequent cause of death, at a global level, is the Ischaemic heart disease, responsible in 2016 for 9,433,000 deaths (Crude death rate: 126 - for 100 000 population), followed by the second place by Stroke which recorded 5,781,000 victims (Crude death rate: 77- per 100,000 population). In the fifth and seventh place of the classification, respectively the Alzheimer disease and other dementias with 1,992,000 deaths (Crude death rate: 27 - per 100,000 population) and the Diabetes mellitus with 1,599,000 (Crude death rate: 21 - for 100 000 population). In WHO European Region the first cause of death was 2,342,000 of deaths (Crude death rate: 256 - per 100,000 population). The stroke has recorded 986,000 victims (Crude death rate: 108 - per 100 000 population), Alzheimer disease and other dementias with 481,000 deaths (Crude death rate: 52 - per 100 000 population), in sixth place Colon and rectum cancers with 265,000 deaths (Crude
death rate: 29 - per 100 000 population), in eighth place Diabetes mellitus with 179,000 deaths (Crude death rate: 20 - per 100 000 population), diseases to which the dietary factor can significantly influence (4).

The benefits of the Mediterranean Diet are evident not only in the field of primary prevention, but they are also demonstrated for people who have already had a cardiovascular event and certainly for some cancers, in relation of which the risk of recurrence and metastasis is reduced (5). A recent Meta-Analysis confirms an important inverse association between adherence to the Mediterranean Diet and mortality due to neoplastic pathology and the risk of the occurrence of different types of cancers, in particular the cancer of the colorectal (6), in relation of which it has been demonstrated that the high adherence to the Mediterranean Diet pattern has a protective role for CRC cancer (7), although cancers’ location and culture studies seem to affect the Mediterranean Diet impact. The MD is associated with reduced rates of digestive tract cancers. These effects may be accentuated in the Mediterranean countries themselves (8).

These beneficial effects highlighted above shall be ascribable to a greater consumption of fruits, vegetables and whole grains. Furthermore, there is also a small decrease in the risk of breast cancer (6%) (6).

The undoubted benefits of the MD are expressed in relation to various diseases, such as metabolic diseases. A reduction in the risk of occurrence of NAFLD (Non-Alcoholic Fatty Liver Disease) has been recognized following an increasing adherence to the MD. Furthermore, a lower insulin resistance was detected among patients affected by NAFLD which follow the MD (9).

Studies made in literature shows that adherence to the Mediterranean Diet seems to offer significant protection against death from any cause and the incidence of major chronic degenerative diseases (reduction of cardiovascular events and cancer incidence). However, there is sufficient evidence that even in Norther countries, high quality diets in line with current recommendations may reduce the risk of cardiovascular events (10).

The above in order to support the main goal of this project, i.e. spreading the MD as an irreplaceable tool for health promotion in all regions of the world, given its proven effectiveness in the prevention of numerous diseases and improvement of quality of life. Systematic reviews and meta-analyses of cohort and case-controlled studies have found that MD is associated with reductions in overall mortality, cardiovascular mortality, cancer incidence and mortality, and incidence of Parkinson disease and Alzheimer disease (11-13). Studies have also found that MD is associated with decreased risk for colorectal, prostate, aerodigestive, oropharyngeal, and breast cancer (12,14-16).

A low incidence of coronary heart disease was found in southern Europe and in particular in countries bordering the Mediterranean, such as France, Spain, Greece and Italy, compared to northern Europe and the United States. The geographical variability was attributed to environmental factors, different lifestyles and to different eating habits, with mediterranean countries traditionally reflecting the dietary habits akin to the Mediterranean Diet (10). From other studies it arises out that consumption of fruits and vegetables, particularly green leafy vegetables and vitamin C-rich fruits, appears to have a protective effect against coronary heart disease (17).

It is also has been pointed out that the adoption of the mediterranean food model, along with other determinants such as non-smoking, a low BMI, being physically active, was associated with a lower disease burden. These factors significantly contribute to a longer and healthier life (18-19).
Lifestyle, and in particular diet, have a predominant influence on the genesis and evolution of many chronic diseases. Moreover, in view of the strong impact these have on health expenditure and the high costs they determine, the adoption of the Mediterranean diet must be included in prevention strategies. In fact, MD reduces mortality and morbidity deriving from chronic degenerative diseases, improving life expectancy and quality of life, and consequently reduces the costs associated with their management, including the direct costs of doctors’ salaries and other health care providers, the costs of hospital care, home services and medications and some indirect costs associated with reduced productivity due to illness and disability. This ensures a healthy net gain and a reduction in total life costs (20).

The Mediterranean Diet is characterized by a large quantity of plant foods, fruits, vegetables, whole grains, legumes and olive oil as an important source of monounsaturated a fat having a superior quality (21), less harmful than those animal, and even healthy for the body. Fruits and vegetables occupy a prominent place for vitamins, minerals, antioxidants and the fibers they provide. Includes low to moderate wine consumption. There are typically low to moderate quantities of fish, poultry, and dairy products, and eggs with little red meat (22).

Moreover, the Mediterranean Diet not only guarantees health benefits, but also ensures and preserves the agricultural biodiversity: its crops are perfectly in line with the criteria of environmental sustainability. From 16 November 2010, the Mediterranean Diet is recognized by UNESCO as Intangible Cultural Heritage of Humanity with the following motivations: “The Mediterranean Diet is much more than a mere food. It promotes social interaction, since the common meal is the base of the social customs and festivals shared by a community, and gave rise to a considerable corpus of knowledge, songs, aphorisms, stories and legends. The Diet is based on the respect for the territory and biodiversity and guarantees the conservation and development of traditional activities and jobs related to fishing and agriculture in mediterranean communities” (23).

It brings together the eating habits of all the peoples bordering the Mediterranean Sea (Italy, Spain, Greece, Morocco, Portugal, Croatia and Cyprus) and ideally combines them in a unique culture of life, social, traditional and agricultural practices. Among the matters and the goals of Expo Milan 2015 “Feeding the Planet, Energy for Life”, in order to provide concrete answers to important issues such as the sustainable development and food security, the Bio-Mediterranean Cluster, which through a jumble of cuisines and peoples has narrated the inestimable value of the Mediterranean Diet, was perfectly integrated. The project developed around a large semi-covered square that housed four structures, in which the ten countries involved (Albania, Algeria, Egypt, Greece, Lebanon, Malta, Montenegro, San Marino, Serbia, Tunisia) has presented the typical products of this geographic area. The cluster was also an opportunity to reaffirm the strong value of the mixture of different cultures, which cannot be ignored and that is, indeed, an extraordinary source of resources. Precisely, on the basis of what has already been achieved by the Bio-Mediterranean Cluster, this project intends to graft.

Objectives

The Mediterranean Diet is a heritage having an extraordinary value and as such should be preserved and shall be promoted throughout the world as a source of health and wellness. In light
of the foregoing and on the basis of the provisions set forth under the applicable law (24) this project proposes the establishment of a unique brand, “Life Food Diet” (LFD), which is a promoter and certifier of quality and excellence, to be assigned to products, restaurateurs, restaurants, institutions, collective catering, etc., which comply with the parameters of the Mediterranean Diet and which are promoters of health, to be ascribable, as reiterated by the World Health Organization, to “a state of complete physical, mental and social wellness and not just the absence of disease or infirmity”.

The LFD project aims at an effective and efficient collaboration involving various professionals and bodies, within a multidisciplinary cooperation, in which culture/research, catering/food sector, marketing can produce profitably, and that also from the point of view media are able to promote the correct diet in the world with all the benefits that come with it in terms of Public Health, and guarantee quality products, with the possibility of constituting an additional tool to contrast the commercialization, especially in foreign markets, of counterfeited products.

Methods

The scientific contribution will be guaranteed by the “Service of Internationalization and Health Research” of the University Hospital “P. Giaccone” of Palermo, also for the skills acquired in the fields of preventive medicine, health education and health promotion, analysis of lifestyles and nutrition.

It also requires the collaboration of operators in the food sector, catering staff and the involvement of companies throughout the Mediterranean basin to satisfy the marketing sector, in addition to the endorsement of the Sicily Region.

The system certification “Life Food Diet” can be granted to products that comply with the Mediterranean Diet – recognized, in November 2010, by the UNESCO Intangible Cultural Heritage of Humanity – and that meet the requirements set by the applicable relevant regulation which includes the following fields.

Name
The system certification is called “Life Food Diet”, in order to underline the enormous potentiality in terms of prevention and health of a healthy and balanced diet.

Logo
“Life Food Diet” provides for a specific and univocal logo, whose description, representation and colorimetric indexes are described below: “Line of circumference in light blue colour, providing for inside in the central half of the field, in black character, the wording “LIFE FOOD DIET”, except for the word “DIET” which consists of an orange colouring with an ochre yellow outline. Inside the white background, at the top along the upper circumference, in blue font is the wording “S. I. H. R.” (Service of Internationalization and Health Research). Finally, in the lower part of the circumference there is the blue label “MEDITERRANEAN DIET” (Figure 1).
Production area

The production area and the packaging of LFD branded products includes Countries bordering the Mediterranean Sea. Such production area includes Member States of the Bio-Mediterranean Cluster: Albania, Algeria, Egypt, Greece, Lebanon, Malta, Montenegro, San Marino, Serbia, Tunisia and the Mediterranean Diet States: Italy, Spain, Greece, Morocco, Portugal, Croatia and Cyprus.

Methods of obtaining raw materials

In order to reduce to the minimum level, the production steps, handling and intermediation, and to guarantee the final consumer a fresh and excellent quality product, raw materials and transformation processes must be carried out by using the “short chain” system. The production and marketing of fruit and vegetables only belonging to each season shall be imposed, with alternating production cycles, in line with the principles of eco-sustainability and agricultural biodiversity and to protect the health of the consumer.

List of products

Please find below the list of the products, constituting the Mediterranean food pyramid, which can receive the attestation of quality LFD: fruit, vegetables, potatoes, cookies, pasta, rice, bread, cured meat, fish, legumes, meat, eggs, condiments (extra virgin olive oil- spices), milk and derivatives, wine and beer, desserts.

Features of products

The quality of the products will be linked to the combination of production factors in the production area. The product must be appreciated precisely for the characteristics that make it unique, so as to be easily recognized on the market. An unmistakable characteristic will be the link with the territory, significantly guaranteed starting from the choice of raw materials. LFD products must be able to combine environmental factors with the needs of life and culture, to enhance the typical products of a delimited geographical area, authentic expression of the indigenous civilization, as well as an important economic resource.
Composition of foods and nutritional requirements

The protection and promotion of the Health for the consumer remains the main purpose of this project. It is essential, therefore, that the products that receive the LFD trademark grant benefit from the nutritional standpoint and that they are health indicators as per merchandise and nutritional evaluation.

Benefits in terms of health

The health potential of the Mediterranean Diet is proven since it is supported by various scientific evidence: it is now undoubted that it helps to lower the LDL cholesterol levels, to prevent and / or stem extremely and dramatically diffused conditions such as diabetes, overweight and obesity. A healthy and balanced diet is also an effective weapon for the prevention of chronic diseases, cardiovascular risk factors and certain cancers. It improves the bowel regularity and promotes the proper functioning of organs and tissues.

Production processes

All stages of the production process must be monitored and for each product the incoming and outgoing products must be certified. The traceability of the product must be guaranteed through the establishment of production registers and the notification of the quantities produced, so as to be accessible at any time by the control unit. The production processes must respect the principles of biodiversity, the crops must be in line with the criteria of environmental sustainability; ensure the protection of land (typical production from fragile area); favor the local artisanal fishing, by promoting the sustainable fishing in the Mediterranean in order to this common heritage can and must be assured to future generations.

Sensory profile

The products must be palatable from the sensory standpoint and guarantee a high-quality value. They will have to be a mirror of the beauty and treasures of the countries that overlook the Mare Nostrum, and be characterized by unique and unmistakable taste sensations, in a harmony of colours and tastes.

Labeling

In order to guarantee the traceability of the entire production chain, the packaging of LFD products must bear a label containing the following mandatory indications, as required by the applicable law in force to which reference should be made (25): name of the food product; country of origin and place of provenance; location of the production plant; seat of the packer or the seller; list of ingredients and allergens that may be contained in the food product; list of raw materials and their origin; durability of the product (expiry date, minimum storage term); storage and use conditions; nutritional declaration (energy value, fats, saturated fatty acids, carbohydrates, sugars, proteins, salt); additional indications; lot code or other indication in order to identify the product; name, corporate name or brand.
The intervention

The “Life Food Diet” brand will become the promoter of a system certification certifying the quality of the agri-food products of the countries involved in the project, in compliance with precise requirements and compliance. Their diffusion will be useful to enhance and make concrete and executive the provisions required by the applicable law: the “Mediterranean Diet - World Heritage” brand (23), not only among the countries of the Mediterranean basin, but all over the world. Therefore, there is the necessity to start a virtuous path that could allow defining a working protocol within a European Group for Territorial Cooperation (EGTC), with “the goal of facilitating and promoting cross-border, transnational cooperation and interregional among its members” (26), which, in addition to the Mediterranean Diet, emphasizes the matters of environmental sustainability, protection of lands (typical production of the fragile areas), and also the artisanal fishing.

All the above this assumes an even greater importance in light of the next event “EXPO Dubai 2020 - Connecting Minds, Creating the Future”, which will collect the baton of the Universal Exposition of Milan – “the participation to EXPO Milano 2015 for the countries of the Bio-Mediterranean Cluster has represented an extraordinary opportunity to plan new strategies for the development and innovation of policies aimed at healthy eating”- and will insist, among others, on the matters of the environmental sustainability and the rational use of the planet’s resources. The three pillars on which the event is based will be sustainability (progress and prosperity without compromising the needs of future generations), mobility (by unlocking new possibilities for people to become contributors for the future) and opportunities (by creating smarter connections and more productive) (27).

The Italian project of exposure to Expo Dubai 2020 will, indeed, be placed in an ideal continuum with what was achieved in 2015 in Milan, based on the principles set forth in the “Milan Charter”. These principles are also provided in the “Charter of the Bio-Mediterranean” whose goal is to strengthen the collaboration of the countries present in the Bio-Mediterranean cluster, to integrate other Mediterranean countries in order to offer a series of strategies that can facilitate the development of more sustainable food systems and in full respect of the principles of the Mediterranean Diet, through the adoption of the articles of this paper, born with the experience of the Bio-Mediterranean Cluster from 1 May to 31 October 2015 at Expo Milano 2015 “Feeding the Planet, Energy for Life” (26).

The planned actions have been structured in the following timetable program (Figure 2)
The products, the productions and business activities waiting for the issuance of the LFD certification and LFD certification, will be subject to periodic checks to be implemented by the “Service of Internationalization and Health Research” of the University Hospital “P. Giaccone” of Palermo or other control structures indicated by it for each country.

**Extension of the system certification**

The Life Food Diet certification will also be extended to caterers, restaurants, institutions, collective catering, etc. who know how to embody the values of the Mediterranean Diet, giving any evidence of use of LFD certified products.

**Training activity**

Training courses will be activated (master, refresher courses, master class, etc.) contextual to the certification in order to promote the cultural growth in this regard, of the following figures: health professionals (doctors, National Health System operators, dietitians, nutritionists) operators in the food sector (chefs, restaurateurs, pastry chefs, etc.), entrepreneurs, in order to promote the Mediterranean food diet both from a health and organoleptic point of view.

In addition, specific optional educational activities will be set up at public and private universities in the countries involved in the certification, which allow to change the way of communicating concerning the human nutrition, by promoting virtuous lifestyles.
Conclusion

The Mediterranean area shows a mixture of peoples and cultures, joined by a long tradition handed down from generation to generation, in which the act of eating has a non-indifferent socio-cultural relevance. The food also has a preeminent role in the economy of the reference territories. LFD products will become ambassadors of the Mediterranean culture in the world, which is a heritage having an extraordinary value that should be preserved and promoted as such. The LFD project is in line with the provisions set forth under the European Food and Nutrition Action Plan 2015–2020 drafted by the WHO (2015): “The intention of the Action Plan is to significantly reduce the burden of preventable diet related noncommunicable diseases, obesity and all other forms of malnutrition still prevalent in the WHO European Region. It calls for action through a whole-of-government, health-in-all-policies approach. Its priority actions will contribute to improving food system governance and the overall quality of the European population’s diet and nutritional status” (28). Within such context and for such purposes, the establishment of the LFD certification will encourage the promotion of the Mediterranean Diet, which is an instrument useful in order to promote the health in all areas of the world, in consideration of the relevant demonstrated efficacy in preventing several diseases and in improving the lifestyles quality, by favoring virtuous lifestyles allowing the decrease of the economic burden related to the chronic diseases.

Funding
No funding will be received to perform the study.

Conflict of interest
None

References


24. Italian Republic. Article 6 of the draft law No. 3310, “Establishment and regulation of the “Mediterranean Diet, Intangible Cultural Heritage of Humanity”.