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The Mediterranean Diet in the era of globalization: The need to support knowledge of healthy dietary factors in the new socio-economical framework

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Abstract. The term "Mediterranean Diet" (Med Diet) refers to human practices, including agriculture, fishing and nutrition that have been associated with a healthy life and considered by the UNESCO as Intangible Heritage of Humanity. This millennial lifestyle is characterised by the production of agro foods through sustainable agricultural practices, respectful of the seasonality, fishing-following the natural cycle of fish proliferation and growth, cooking systems as well as the time of food intake during the day. In terms of nutrition, the Med Diet is centred on the consumption of whole grains, olive oil, legumes, fish, fruits and vegetables, including aromatic herbs. A combination of these foods provides a perfect balance between macro- and micronutrients, which are functional for the control of the glycaemic index, protection against oxidative stress and normalization of blood lipid levels. These effects result in a lower incidence of chronic diseases, including cardiovascular diseases and cancer. As the pressure of globalization puts at a risk of extinction the cultural background of the Med Diet and hampers its transfer to future generations, a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis of the Med Diet is presented. In order to support this alimentary tradition, some suggestions are proposed as well.

Keywords: Mediterranean diet, SWOT analysis, UNESCO heritage, glycemic index, unsaturated fatty acid, phenolic compounds, antioxidant activity

List of Abbreviations

Abbreviation	Meaning
AA	Arachidonic acid
CHO	Carbohydrates;
CO_2	Carbon dioxide
DHA	Docosaesanoic acid
DNA	Deoxyribonucleic acid
EFA	Essential fatty acid
EFSA	European Food Safety Authority

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EU	European Union
EVOO	Extra virgin olive oil
FA	Fatty acids
GI	Glycemic index
GL	Glycemic load
GLUT2	Glucose transporter 2
HDL	High density lipoprotein;
LDL	Low density lipoproteins
LDL	Low density lipoprotein;
Med Diet	Mediterranean Diet
MUFA	Monounsaturated fatty acids;
NDOs	Nondigestible Oligosaccharides
NF-kB	Nnuclear factor kB.
PAI-1	Plasminogen activator inhibitor type 1;
p-HPEA-EDA	Ligstroside-aglycone di-aldehyde (oleocanthal)
ROS	Reactive oxygen species
SFA	Saturated fatty acids;
SWOT	Strengths, Weaknesses, Opportunities, Threats
TLR-4	Toll-like receptor 4
UFA	Unsaturated fatty acids
VLDL	Very low density lipoproteins

1. Introduction

The health protection efficiency of Mediterranean Diet (Med Diet) traditions developed by the populations living around the Med Basin has been initially proposed by Ancel Keys in 1950s [1, 2]. These traditions, originating in ancient Greece, have spread throughout the Med basin, particularly to Italy, Spain, Tunisia, Morocco and southern France.

On November 14th 2010, the Med Diet was recognized as UNESCO immaterial heritage with the deserving contribute of Italy, Spain, Greece, and Morocco, countries which have promoted the health importance of this heritage and the need to preserve it.

Since antiquity, Greek people considered the term diet not only a reference to alimentary rules but also to a life style able to ensure good health. The Med Diet emphasizes agronomic practices, which accounted for seasonality of food products, fishing, respect of the environment, biodiversity as well as the qualitative and quantitative consumption of the foods along the day.

The principal point of strength of the Med Diet is the nutritional properties of the utilized foods. These properties are strictly connected with both cooking and dressing procedures, as well as with the mixture of different foods in a single meal. The food mix and dressings are very simple in their composition. The Med Diet prefers the use of mixed raw vegetables dressed with extra virgin olive oil (EVOO), which is used also for cooking. The cooking time is kept very short and this allows to maintain most of the nutrients contained in the raw foods [3, 4].

It is also important to eat at home, in a quiet environment, at fixed times every day. This psychological aspect is as important as the nutrient content of the foods [5].

An example of a daily intake of food for an adult men following the Med Diet is reported in Table 1. The daily energetic demand is 2250 kcal, provided by 55% carbohydrates, 16% proteins, 29% lipids (Table 1).

The most important foods and nutrients are whole grains, legumes, blue fish, EVOO and raw or cooked vegetables.

Nuts and seasoned cheese [6, 7] are also used as well as moderate amounts of red wine [8]. Honey, is used as a sweetener [9], whereas meat consumption is reduced to once a week, with marked preference for white meat, like chicken and rabbit [1].

Table 1
Daily food assumption of an adult subject following the Med Diet model (Developed with "WINFOOD" Professional Diet Software)

Parameter				Value
Age				30 years
Height				175 cm
Weight				70 kg
BMI				22,9
Basal Metabolism (Harris & Benedict)				1702 kcal
Energy Expenditure (Basal Metabolism × Activity × Diet induced Thermogenesis) (1702 × 1,2 × 1,1)				2247 kcal
Breakfast 7.30 am	Snack a) 11.00 am b) 17.00 p.m	Dinner 13.00 p.m	Supper 19.00 p.m	Notes
Coffee 30 g	a, apple 100 g	Pasta 100 g	Fresh mixed salad 150 g	
Semi skimmed	b, Nuts 20 g or yogurt 125 g	Beans 70 g	Blue fish 150 g	Yogurt from Semi skimmed
Milk 200 g				Milk
Honey or sugar crystal 10 g		Parmesan Cheese 5 g	Broccoli or Beet green 200 g	
Whole bread 50 g		Fresh vegetables 200 g	Olive oil 15 g	
		Fresh fruits 150 g		
Marmalade 40 g		Olive oil 15 g	Fresh fruits 150 g	
		Whole bread 40 g	Whole bread 100 g	
		Red wine 50 g	Red wine 50 g	
Total 302 kcal	Total a, 173 kcal Total b, 99 kcal	Total 946 kcal	Total 727 kcal	

Total Kcal = 2247 kcal Composition: 55% carbohydrates; 16% proteins (1,2 g/kg body weight); 29% lipids.

Fresh vegetables, olive oil and fish have been considered the Med Diet foods containing the most healthy nutrient principles and clinical evidences were drawn from several epidemiological studies [10–13]. The Lyon Diet Heart study [11] evidenced on infarctuated patients a 73 and 70% reduction of coronary events and mortality, respectively. In Greece, a population based study [12] on more than 22,000 apparently healthy adults evidenced that the adherence to a traditional Med Diet was associated with significant lower total mortality, mortality from coronary heart diseases and mortality from cancer [10–13]. Because no one significant association between healthy effects and individual dietary components was drawn by those studies, the most accredited conclusion was that the healthy effects of the Med Diet are due to cumulative effects of multiple dietary components [14].

In this report, we underlie the biochemical and physiological mechanisms though which nutrients of the Med Diet foods largely contribute to protect from cardiovascular diseases (CVD), metabolic syndrome (MS) and tumors. Furthermore, as to date, the large flux of foodstuff and alimentary information due to globalization, confuses the application of the Med Diet model [15, 16], especially in young families, we provided a SWOT analysis for the cultural repositioning the Med Diet model within the EU Countries.

2. Whole cereals and glycemic index

Whole grains (wheat, rice, corn, spelt, barley, oats) are traditionally used in the Med Diet to cover a wide part of the carbohydrate amount. Grains also provide proteins, vitamins, fibers and polyphenols [17].

The intake of carbohydrates is strictly linked to insulin secretion by the β-cells of the pancreatic islets. Insulin is the main anabolic hormone, which allows the storage of carbohydrates in the form of glycogen in liver and muscle, as well as the conversion of excess sugars into fats [17].

The impact of carbohydrates on insulin release is quantitatively and qualitatively evaluated considering both the amount of ingested carbohydrates and the timing linked to their digestion and absorption [18]. In fact, the ingestion

Table 2
Ranges in the glycemic index and load of foods

Glycemic index range	Glycemic Index (GI) %	Glycemic Load (GL) %	Daily glycemic load %
Low	0–55	0–10	<80
Medium	56–69	11–19	100–119
High	>70	>20	>120

GL = Glycemic Load; GI = Glycemic Index; CHO = grams of carbohydrates per serving.

The glycemic load is calculated from the glycemic index as follows: GL = GI/100 × CHO; Data from: Harvard Medical School,

- (http://www.health.harvard.edu/newsletters/Harvard_Health_Letter/2012/November/choosing-good-carbs-with-the-glycemic-index).
- (http://www.health.harvard.edu/newsletters/Harvard_Health_Letter/2012/November/A good guide to good carbs: The glycemic index).

Data from: University of Sydney:

- (http://www.glycemicindex.com/cmsAdmin/uploads/glycemicindex.ppt).

of low amounts of sugar rich foods, could sharply increase blood glucose levels, overcoming energy needs and the physiological capacity to store glucose in the form of glycogen, thus favoring the synthesis of fats [17].

The capacity of one specific food to increase blood glucose with respect to another reference food, generally white bread, has been defined has glycemic index (GI) [18, 19].

Practically, GI is evaluated by the ratio of the area under the curve (AUC) of the glycaemia obtained with the tested food and the AUC obtained with the reference food [18]. On this basis, foods are classified at high, middle and low GI (Table 2).

The GI value may be used to draw the glycemic load (GL), which is expressed by the grams of carbohydrates of a food multiplied for its GI (Table 2). GL value is proportional to the insulin released for the control of the postprandial glycaemia [19]. For health protection, some authors suggest to keep GI and GL as low as possible [20], because of their direct relationship with body mass index (BMI) [21]. However some authors collected data on the alimentary habits and suggested a null relationship [22]. Caution must be adopted to evaluate both positions, as the results are strictly connected with the reliability of the interviewed subject in providing corrected answers. Moreover, one must consider the unavoidable imprecision in the cases of foods on which GI and GL data are not available. It is however generally accepted that a low GL diet, that also adequately adheres to the principles of the traditional Med Diet, may reduce the incidence of type 2 diabetes (23)

In the Med Diet, bread or pasta made with whole cereals are preferred to those made with white flour. In fact, the presence of the bran in whole bread lowers the GI by 30% or more, with respect to white bread [19].

The layers of the whole grain structure, which contains the nutrients able to reduce the GI are shown in Fig. 1. The soluble fiber (Beta-glucans and arabinoxylans) present in the aleurone layer and in the endosperm (Fig. 1), contributes significantly to lower the GI by means of a barrier around the food material in the gut, which slows the action of amylolytic enzymes, contributing to a slower absorption of nutrients [24]. Insoluble fibers including cellulose and lignin, present in the outer and inner pericarp (Fig. 1), provide a similar barrier effect under the digestion of foods in the gut, and, in addition, it allows the sequestration of cholesterol and fats directing them towards the excretion [24]. Research has demonstrated that a balanced assumption of bran could help to prevent excess of lipids in the blood and their consequent pathological conditions [25].

Moreover, phenolic compounds, which are linked to the fibers, have an additional inhibitory effect on pancreatic digestive enzymes [26]. Indeed, some phenolic compounds were found to inhibit GLUT2 transporter, thus allowing control of the intestinal glucose absorption and GI control [26].

Antioxidant activity of phenolic compounds bound to the fiber is also very important during the digestive processes [27]. Cereals contain condensed tannins, called procyanidins which exploit high antioxidant activity in "*in vivo*" conditions and are considered both antitumor and cholesterol lowering compounds [24–27].

The avenantramides, a class of amidic phenolic compounds, found in oats [28], have been shown to be particularly efficient into the reduction of the oxidative stress and in the control of the inflammatory processes [29].

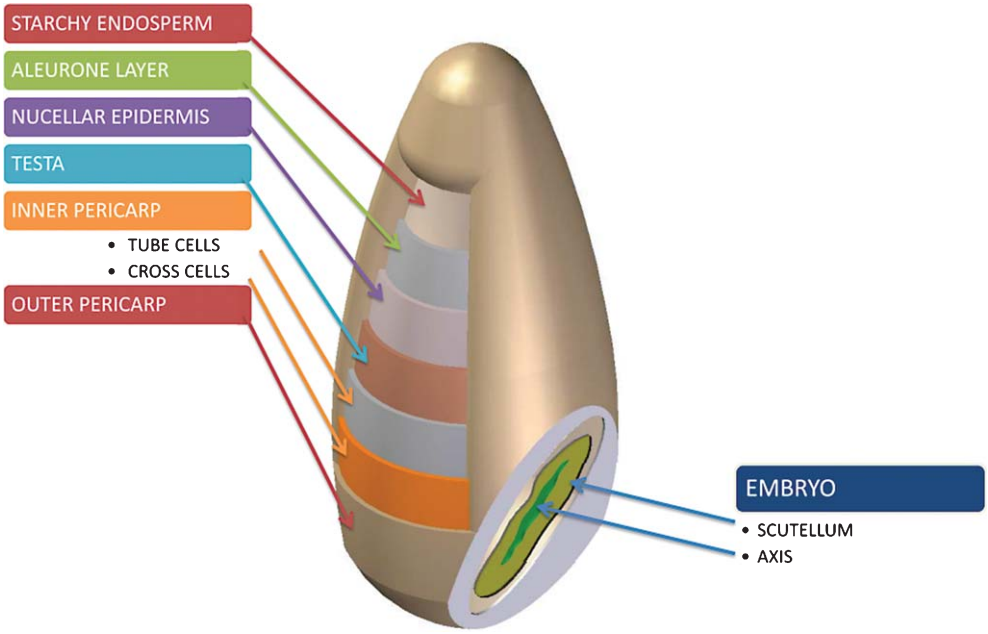

Fig. 1. Structure of the whole grain. From bottom to top we find: the outer pericarp, followed by the inner pericarp, formed by tube cells and cross cells, which are rich in fibers, mainly consisting in cellulose, emicellulose and pentosanes; the testa, which is the true tegumentum; the nocellar epidermis, which is the remaining tissue, where the endosperm and the embryo develop; the aleurone layer, formed by cubic cells, rich in fibers, beta-glucans, polyphenols and proteins; the starchy endosperm, where starch is accumulated together with beta-glucans (in oat and barley) and the proteins, prolamines and glutelins. Inside the endosperm is the embryo, which represents another source of proteins and lipids as well as of other micronutrients, such as carotenoids, tocopherols and polyphenols, which are present also in the aleurone layer. The bran concentrates the phenolic compounds about three fold in respect to the whole grain, but the nutrient rich aleurone layer, together with the germ and pericarp, are removed during milling.

3. Legumes

Legumes (peas, beans, fava beans, lentils, chio-peas, chickpeas), which belong to the *Fabaceae* family, represent a source of proteins, carbohydrates, minerals and phenolic compounds.

With respect to cereals, which belong to the *Graminaceae* family, legumes have higher level of organic minerals, proteins and fibers. When legumes are combined with cereals, they significantly increase the nutritional density of the meal. For instance, since cereals are low in the content of lysine, isoleucine and tryptophan, whereas legumes are low in methionine and cysteine, their combination in one food provide the full intake of essential amino acids. With their remarkable presence of proteins, fibers and starch, legumes may be ranked as foods at low or middle GI and thus particularly suitable for a moderate consumption in situation of type 2 diabetes or a calorie restricted regimen (Table 3).

Table 3
Average glycemic index of Med Diet legumes (g/100 g)

Legumes	G.I	CHO	Proteins	Lipids	Fibres
Chick-peas	28	46	21.8	4.9	13.8
Lentils	29	46.5	25.0	2.5	13.7
Beans	30	43.2	23.6	2.5	17.0
Fava Beans	30	45.4	27.2	3.0	7.0
Peas	42	45.7	21.7	2.0	15.7

*GI, glycemic index; CHO. Carbohydrates; Data from INRAN public database (www.inran.it/) and International Table of glycemic index and glycemic load values (Refs. 18, 19).

With notable antioxidant activity, phenolic compounds are also present in legumes [30, 31], together with Non Digestible Olygosaccharides (NDOs) such as raffinose, stachiose and verbascose [31]. Not absorbed by the human intestine, NDOs represent fermentable substrates for the gut microbiota, causing meteorism and flatulence in some people [32]. In the Med Diet tradition, these problems were avoided through the consumption of aromatic herbs with carminative function, such as salvia (Salvia plebea), rosemary (Rosmarinus officinalis), angelica (Angelica archangelica), fennel (Foeniculum vulgare), Melissa (Melissa officinalis) and mint (Mentha piperita), which were normally added in the food preparations [33].

4. Fish

The importance of the fish in the Med Diet is due to its content of proteins with high biological value as well as of lipids [34]. The most used is forage fish, which includes anchovies and sardines: the former is low fat fish, as it contains less than 3% lipids; the latter contains 8% fat and it is classified as semi-fat. Forage fish lipids contain two essential fatty acids (EFA), linoleic (18:2, ω-6) and linolenic (18:3, ω-3) acids, which are not synthesized by the human body, but are vital for normal physiological conditions [35–38]. Human beings utilize EFAs as precursors in the synthesis of arachidonic acid (AA, 20:4, ω-6) and docosaesanoic acid (DHA, 22:6, ω-3). AA and DHA are involved in several important reactions, including those which maintain eicosanoid homeostasis [20]. Eicosanoids, constitute a class of 20 C molecules that includes: prostaglandins, prostacyclins, thromboxanes e leucotrienes. These molecules are subdivided in pro-inflammatory and anti-inflammatory mediators, which are all involved in platelet function and control of vascular pressure [36, 37].

The AA derived eicosanoids show pro-thrombotic and pro-inflammatory activity, whereas those synthetized from the DHA have no pro-thrombotic activity and exhibit anti-inflammatory activity [37]. Considering that dietary EFA intake is directly correlated to the amount of eicosanods, it appears evident that a correct ω-6/ω-3 balance is fundamental for the control of the inflammatory process [36, 37]. Indeed, fatty acids (FA) of the ω-3 series have been demonstrated to modulate the blood pressure and the very low density lipoproteins (VLDL) secretion, which carry out a lower triglyceride concentration [38]. By this way, ω-3 FAs reduce the risk of primary and secondary heart attack [39].

5. Extra virgin olive oil

Traditionally, EVOO is the principal source of lipids in the Med Diet [1, 2, 40, 41]. The health protection qualities of EVOO reside in the presence of unsaturated fatty acids (UFA): oleic acid (18:1, ω-9) constitutes about 70–80% of the UFA, whereas the linoleic (18:2, ω-6) and linolenic (18:3, ω-3) acids constitute 10 and 1% respectively [40]. Oleic acid improves the post prandial lipemia, reduces the low density lipoproteins (LDL) oxidation as well as insulin release from the pancreatic β-cells [42–49].

Health protection effects are also provided by the minor components of EVOO, including the the liposoluble antioxidant vitamins E and A and phenolic compounds [50–54]; the latter are particularly efficient in the reduction of inflammation, oxidative stress, as well as arrhythmia and vasodilatation [50–54]. Table 4 lists all these effects with the relative references in the literature.

One of the major components of the phenolic pool in EVOO is the ligstroside-aglycone di-aldehyde (p-HPEA-EDA), also called oleocanthal, which is responsible for the slightly peppery “bite” of extra virgin olive oil [55]. Oleocanthal has been structurally and functionally associated with the action of the anti-inflammatory drug ibuprofen [55]

6. Fruits and vegetables

In the Med Diet, the contribute to health protection of fruits and vegetables consists of the introduction of fibres, minerals and polyphenols. Polyphenols largely contribute to the control of the oxidative effects due to reactive oxygen

Table 4
Summary of health protection effects of extra-virgin olive oil in the Med Diet

Evidence level	Beneficial effect
Dietary intervention trials in different populations (Ref. 54)	Lipid profile with reduction of LDL and increase of HDL with respect to diet rich in saturated fatty acids
	Reduction of LDL vulnerability to oxidation
	Improvement of glucose metabolism in normal subjects and patients with type 2 diabetes. Monounsaturated fatty acids result in lower insulin requirement and plasma glucose concentrations
	Improvement of blood pressure control
	Improvement of endothelial function
	Minor pro-thrombotic risk compared with Saturated FA-rich diets, by reduction of: platelet aggregation, thromboxane B 2 production, von Willebrand factor, tissue factor pathway inhibitor, PAI-1, Factor VII and Factor XII
Suggested by dietary intervention trials, observational studies, or *in vitro* experiments	Positive effect on obesity (Ref. 54)
	Anti-inflammatory effect due to lower NF-kB activation compared with other diets, during fasting and postprandial state (Ref. 61)
	Reduction of age-related cognitive decline and Alzheimer's disease (Ref. 63)

species (ROS) towards nucleic acids, lipids and proteins [56, 57]. Very important is the protection of polyphenols on the LDL oxidation, which contributes to reducing the risk of atherosclerosis [58].

A main problem with polyphenols is their scarce bioavailability [59]. Therefore, following the traditional Med Diet practice, it is nowadays suggested to consume several types of fruit and vegetables, mainly in raw/fresh conditions, in such a way to enlarge the spectrum of bioactive phenols (60, 61).

In the Med Diet context, when necessary, the cooking process was kept short so as to guarantee the salvage of antioxidants from denaturation or oxidation [1, 2, 62]

Polyphenols are endowed with the capacity to interfere with the cell signaling network, thus modulating the expression of transcription factors as well as activating the enzymes deputed to DNA repair and detoxification [60, 61]. Polyphenols also exhibit anti-inflammatory properties [56, 61]. The inflammation is an immune response of the body, which is activated every time that a dangerous micro-organism is recognized or when internal tissues are damaged [20]. Macrophage cells are endowed with Toll-like receptors (TLR), among which the TLR-4 is one of the most studied [20]. When an antigen binds TLR, this initiates a cascade of biochemical reactions, which activate the nuclear transcription factor NF-kB. Once activated, the NF-kB is transferred into the nucleus, where it binds specific DNA sequences. The complex, NF-kB/DNA induces the formation of proteins with pro-inflammatory effect [60–63]. NF-kB maybe activated by many stimulating agents, including reactive oxygen species (ROS) and saturated FA, usually correlated with unbalanced diet [61]. The role of the polyphenols seems involved in blocking NF-kB activation and modulation of sub-clinic inflammatory stimuli due to oxidative stress or FA alimentary disequilibrium [61].

Fruits and vegetables, in the amount suggested by the Med Diet, i.e., five servings of fruits and vegetables per day [60], are able to lower the levels of markers of inflammation, including C-Reactive Protein, Interleukin-6 and Tumor Necrosis Factor-alpha [60, 61].

7. The Med Diet in the actual cultural and economic context

The alimentary style of the Med Diet, has been verified in practice by generations, who validate it on the basis of fundamental advantages: caloric content, good digestibility, psychological and physical wellness, and good performance in agricultural jobs. Recent studies do confirm unequivocally the advantages of Med Diet with respect to other diets [64–69].

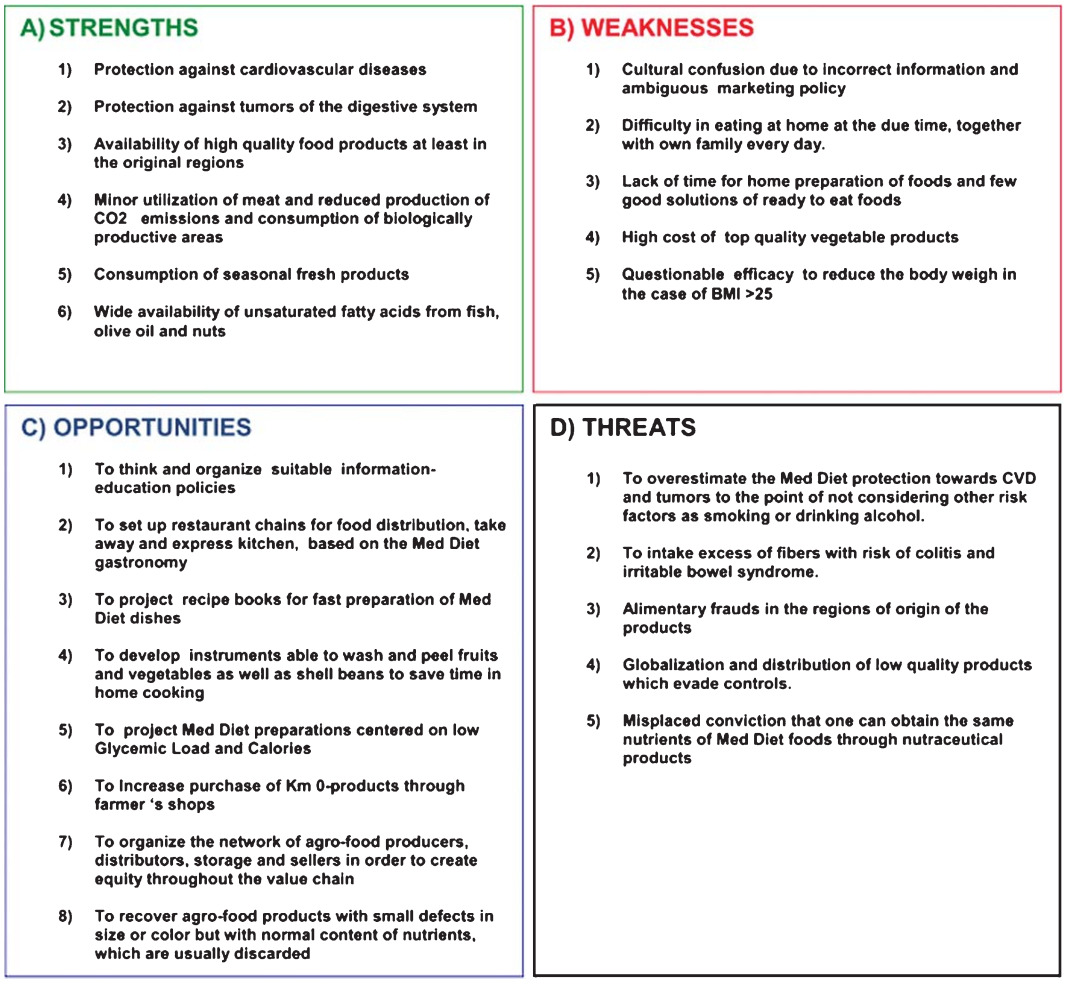

Fig. 2. Swot analysis on the Med Diet model.

As the pressure of the globalization puts at a risk of extinction the precious cultural tradition of the Med Diet, a SWOT analysis is proposed in Fig. 2. This analysis is based on our personal experience and feels therefore of limitations due to subjective opinions.

We wish to underlay some points in Fig. 2, which we believe to be very important.

The health benefits of the Med Diet are listed among the points of strength in Fig. 2A. Among these points, it is worth noting that a change in lifestyle towards the Med Diet provides a better costs/benefit ratio due to the protection of the environment [62]. CO_2 emissions are reduced and there is a minor consumption of biologically productive areas (Fig. 2A, point 4) as a cause of the global warming. It has been demonstrated that the passage from a high meat diet to a Med Diet reduces 19% CO_2 emissions by 19% (Carbon Foot Print) and consumption of biologically productive land by 42% due to reduction of the greenhouse effect and sea level rise [62].

The survival of the Med Diet is strictly dependent on alimentary policy able to favor the introduction to the marketplace of whole grains and derived products as well as legumes at affordable prices (Fig. 2A, points 3,5,6).

Refined cereal flours, canned vegetables, or industrially transformed vegetables have dramatically changed the market for foodstuffs with a plethora of foods of uncertain nutritional efficacy [16, 70–72]. For instance, whole flour are not naturally produced but are reconstituted, as industries initially take away bran from flour and then they add

it in different proportions; the added nutrients do not show the original characteristics as they have been modified during separation and storage.

The implementation of the alimentary policy is listed among the opportunities in SWOT panel C, which also includes the organization of the distribution of the products as well as the commodities to facilitate the management of the agro-foods (Fig. 2C, point 7).

The prevention of obesity and chronic diseases in Italy and Europe strictly depends on the survival of the Med Diet model [16, 70]. The contaminations of the global market to the healthy potential of the Med Diet model are listed among the points of weakness (Fig. 2B, point 1). Indeed, the difficulty of finding ready to eat agro-foods able to substitute efficiently for home made preparations is listed in the points of "weakness" (Fig. 2B, point 3).

New opportunities for sustaining the Med Diet model based on traditional local products stem from investigation of the health benefits of nutrients found in some vegetables traditionally cultivated in Italian regions and distributed locally, i.e the so-called Km 0 products (Fig. 2C, point 6). Fraudulent agrofood products must be punished with perseverance, as this criminal activity is able to destroy in few months the economy of a food sector established over many years of high quality production (Fig. 2D points 3,4).

8. Conclusions

Despite its beneficial effect, the Med Diet is falling out of practice in its home territory [66, 67]. People from Italy, Greece, Spain have changed their dietary habits: higher caloric intake, too many fats, too many refined sugars. Caloric intake has increased by 20% in the last 40 years in EU countries. The ratio between the energy introduced through complex carbohydrates, legumes, nuts and vegetables and the energy introduced with meat and cheese, i.e the Med Diet adequacy index, was recorded as 7.5–8 at the time of the study that involved 12,000 people aging 40–59 years from Finland, Holland, Japan, Greece, Italy, USA. In the Calabria Region, the adequacy index decreased to less than 2 by 2005 [66, 67]. Paradoxically, this desertion from the Med Diet life style happens in a period when:

a) Epidemiological studies evidenced that adherence to the Med diet may contribute to reduction of the risks of Alzheimer's and Parkinson's diseases [63] a true emergency today.
b) The non EU countries, like China and USA, are assimilating the healthy reputation of the Med diet to assist their populations in fighting Metabolic Syndrome, which is increasing in all countries including China [73–76].
c) The FAO has published a comprehensive guide for development of nutrition education practices in primary schools [14].

Educating school children about eating with a Med Diet style is one of the most effective ways to overcome the diet related diseases. Children should be aware that it is not only the amount of food but the quality of the foods that has a dominant effect on growth, health and learning capacity. Teachers should be able to enter in the learning habits and perception towards foods and on the cultural and social environment where the children have been educated.

In the EU, the EFSA is evaluating all health claims for food products so as to forbid all claims not supported by scientific evidence [65]. In terms of the Med Diet, several nutrients were recognized as useful and were admitted in the claims. Vegetal sterols and stanols, pectins, β-glucans, low saturated fat foods, oleic, linoleic and alpha-linolenic acids were admitted for the claim that they are able to keep normal cholesterol levels in blood and protect lipids of the blood from oxidative stress [65]. In Italy, the Association for the Med Diet: food and lifestyle (www.associazionedietamediterranea.ie) has been founded in the village of Pioppi in Calabria Region Italy. Here, Ancel Keys and his co-workers began their studies on the Med Diet. Moreover, the National Institute for Med Diet and Nutrigenomics (www.indim.it) represents another important presidium for the defense and propagation of the Med Diet lifestyle [67, 68].

Despite the amount of work carried out by these organizations, it has been calculated that only 10% of Italians follow the Med Diet, whereas the rest follows less healthy diets.

It is the hope of the authors that, the comparison of the alimentary model among the different UE countries, as it is happening in one approved UE project (Food Basket), will bring to evidence the alimentary Med Diet model, as a reference for all UE citizens, since this model is certainly able to decrease the incidence of " chronic diseases".

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