Review Article

The Mediterranean Diet between traditional foods and human health: The culinary example of Puglia (Southern Italy)

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Abstract

The Mediterranean Diet, through a healthy profile of fat intake, carbohydrate at low glycaemic index, high content of dietary fibre, antioxidants and anti-inflammatory compounds, reduces the risk of certain pathologies such as cardiovascular disease. However, it represents anything much more than a dietary regimen and it is also characterised by its links to the various food cultures of the different countries of the Mediterranean area. On the other hand, the traditional cuisine of the Puglia region (Southern Italy) is based on a nutritional model mainly vegetarian because only a small share of calories is of animal origin; cereals are the basic ingredient, pulses and olive oil the main protein and fat source, respectively. In this paper we reported the culture, history, identity and heritage of this culinary model of the Southern Italy tradition to understand possible linkages with the Mediterranean Diet. Moreover, some traditional recipes of the Puglia cuisine are examined as regards gastronomic and nutritional aspects, also for better explaining its relationship with the food style best famous in the world.

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Keywords: Lifestyle; History; Nutritional characteristics; Traditional cuisine; Puglia's dishes

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Much more than a dietary regimen

As explained by most dictionaries and shown by the media, the use of the term “diet” is frequently associated to specific food regimes, normally of a restrictive nature and with therapeutic or aesthetic purposes. Nevertheless, etymologically the word *diet* comes from the Latin *diaeta* which in turn comes from the Greek *diaita*, “way of living”, “life regime” (Corominas, 2000). Anatole Bally (a renowned Hellenist) in his dictionary (Bally, 2000) translates the term *diaita* as type of life and specifies as a first meaning “…in general, a whole set of habits of the body and the spirit, tastes, customs, etc… Classical authors already used this term with the same sense as that used by Bally: Hippocrates in his works; Plato in Republic and Laws; Herodotus in The Histories; Pindar in Pythian; etc. This “way of living” is what we also know today as “lifestyle”. Style or way of life that characterise individuals, groups, communities or villages and which make them similar or different from each other. Therefore, the Mediterranean Diet is this evidently dynamic and ever changing lifestyle with all its diversity, which it is possible to consider in its holistic sense made from tangible and intangible aspects and values. Other plural designations such as Mediterranean Diets and Mediterranean cuisines are the result of an argument used by those who believe that we cannot talk about “one” single diet, but that there are “many” diets in the Mediterranean just as there are many cuisines. It is a persistent argument which is also applied to the Mediterranean by those who think it is not relevant to consider it as a whole.

The Mediterranean Diet as an unequalled legacy of landscapes, places, knowledge, know-how, technologies, products, myths and beliefs, accents, creativity and hospitality. It is in short, a (or perhaps “the”) common language of the Mediterranean people. Furthermore, another important milestone in the dissemination of its significance was the inscription of the Mediterranean Diet in the List of Intangible Cultural Heritage of Humanity by UNESCO, in November 2010. In no case this recognition represents an ultimate milestone, but rather an undertaking to work to safeguard this legacy.

A combination of history, cultures and environment

The traditional Mediterranean Diet is the heritage of millennia of exchanges amongst the peoples and cultures of the Mediterranean Basin. It formed the basis of eating habits throughout the region until the mid twentieth century, but it is now gradually being lost due to the spread of the western-type economy and urban and technological society as well as the globalisation of production and consumption.

The Mediterranean culture integrates the past and the present, because many of its modern aspects can be traced to the ancient past. Effectively, the Mediterranean basin has been, for millennia, a crossroads of civilisations as a point of convergence for people, merchandise and religions. In Tunisia, for example, you can find Portuguese and Spanish survivals in the consumption of “bacalao” or salt cod. It was probably the Portuguese who introduced the cod into Tunisia, as shown by the adoption of the Arab name “bagalaw”. It is now mainly consumed in a porridge, chiefly in Sfax, on the feast of Aid el Kebir, to accompany a sweet and sour dish, the ritual “charmoloua”. Inhabitants of the inland areas tended rather to eat a mollusc dried in the sun and salted, called “ouzef”.

Even the scenery represents, in some ways, a composite picture: some plants such as olive trees, wheat, and vineyards exist in this area from time immemorial. Oranges and lemons, however, originate from the Far East and were brought to the Mediterranean by Arabs. Thorny plants such as prickly pear were brought from America. Also tomatoes, eggplants, corn and potato have been imported, but these and several other plants have gradually become integral parts of the Mediterranean diet. Indeed, the benevolent climate in the region and the human activities have moulded disparate components into a balanced ecosystem (Braudel et al., 1985).

As regards the religion, during polytheistic and monotheistic times the influence of the sacred and the liturgical on diets, production and habits has been substantial. Amongst the celebrations and deity festivities, the *yumuua*, the *shabbat*, the *dominica*, saints’ feasts and other holy days of obligation, the Mediterranean has spent half its life offering up or praying… or disputing the monopoly of the divine truth. Foods here have been raised to the category of the sacred. Bread, wine and oil (the Mediterranean triad) occupy a prominent place: oils anoint the newborn, the king and the moribund; Athena’s olive tree founds the state-city and represents the most useful offering for humankind; the dove with the olive branch announces the end of the Flood; the olive of the Koran is the “blessed tree which is neither from the East nor the West and whose oil seems to take light without coming into contact with fire”; the wine and bread at the Last Supper, are the body and blood of Jesus Christ. The list is endless, in all peoples and times of the Mediterranean. Today we have almost forgotten that when we refer to a companion we are referring to a *cum panis*, someone with whom we are sharing bread.

Conceived as a constantly evolving lifestyle, the Mediterranean Diet is a complex system of shared knowledge relating to health, food, cultures and people; it is the product of a particular environment, a geographical region of multiple facets and rich history, which conserves traditional knowledge and a diversity of foods and diets.

The shortage of resources has prompted communication amongst Mediterraneans and the construction of a food style.
that has adapted and transformed plants coming from remote places. Their food habits are excellent examples of the fertile combination of production and commercial activities that has shaped the history of mankind. Thus, few Mediterranean dishes can be imagined without such exchange. If we think about some of the most famous examples, it is evident that they have only existed thanks to the Mediterraneans’ eagerness to broaden the horizons of their diet. This is the case of the Greek *moussaka* (aubergines and meat), the Maghrebi *harira* (tomato and vegetable soup), the *hummus*, a dish shared by Arabs and Jews (chickpea and sesame spread), the Egyptian *falafel* (bean fritters), the Turkish *dolmathakia* (rice-stuffed grape leaves), the Italian *pesto* (basil sauce), the French *bouillabaisse* (fish and tomato stew) or the Spanish *pisto* (vegetable ratatouille) and rice dishes. Their names recall the taste of Mediterranean cuisines; but this taste is the result of combining ingredients and spices that did not exist until they reached, at a given moment in history, the big larder of the Mediterraneans. His interdisciplinary approach, which has been adopted lately and Stay well to broaden the horizons of their diet. This is the case of the Greek *moussaka* (aubergines and meat), the Maghrebi *harira* (tomato and vegetable soup), the *hummus*, a dish shared by Arabs and Jews (chickpea and sesame spread), the Egyptian *falafel* (bean fritters), the Turkish *dolmathakia* (rice-stuffed grape leaves), the Italian *pesto* (basil sauce), the French *bouillabaisse* (fish and tomato stew) or the Spanish *pisto* (vegetable ratatouille) and rice dishes. Their names recall the taste of Mediterranean cuisines; but this taste is the result of combining ingredients and spices that did not exist until they reached, at a given moment in history, the big larder of the Mediterraneans and became part of its long history of adaptation (Abdelkader, 1998; Chomski, 2010).

In conclusion, the Mediterranean has been a permanent laboratory for mankind to show the ability to adapt and disseminate foods. Anyway, the inhabitants of the Mediterranean have built their food style through interaction or by defining their own habits as opposed to those coming from the other side of the basin. Thus, interaction and opposition are the two complementary sides of Mediterranean cultures and also of their diets.

**Nutritional and healthy characteristics of the Mediterranean lifestyle**

In 1975 the American physiologist Ancel Keys published, together with his wife Margaret, the book “How to Eat well and Stay well”. The Mediterranean Way, which talks about the diet of common people in Greece, Italy and along the Mediterranean coasts of France and Spain (Keys and Keys, 1975). Known as the Seven Countries Study, it was the result of more than 25 years of cross-national studies on the subject of diet–cholesterol–coronary diseases and became a bestseller. Ancel Keys can be considered the discoverer from the scientific evidence, of the Mediterranean Diet and its benefits. Through his works and publications, but also thanks to his sensitivity, his observation skills and his curiosity, the researcher Ancel Keys not only showed a transcendental relationship between diet and cardiovascular diseases but also discovered and disseminated with passion a lifestyle that fascinated him and which he understood as indivisible and substantial to everything he was studying in the Mediterranean. His interdisciplinary approach, which has been adopted lately through sociology, anthropology, economics, agronomy and biology, among others, has helped to extend its perception considerably. On the other hand, as previously reported, the Mediterranean is characterised by various food models influenced by different cultures, histories and religions. Nevertheless, although different regions in the Mediterranean basin have their food model, it is appropriate to consider these as variants of a single entity, the Mediterranean Diet. Indeed, the dietary patterns that prevail in the Mediterranean have many common characteristics, most of which stem from the fact that olive oil occupies a central position in all of them. Olive oil is important not only for its own health benefits, but it is also associated with the consumption of large quantities of vegetables in the form of salads and equally large quantities as cooked foods. Other essential components of the Mediterranean diet are cereals (especially the wheat) and their derivative products, the fish and shellfish, legumes and nuts. Total fat may be high, around or in excess of 40% of total energy intake (as in Greece), or moderate, around 30% of total energy intake (as in Italy). In all instances, however, the ratio of monounsaturated/saturated fats is much higher than in other regions of the world, including northern Europe and North America. Thus, it might be convenient to define the Mediterranean Diet as a plant-based pattern, where vegetables, fruits, cereals (preferably as whole grain), legumes and nuts should be consumed in high amount and frequency. This pattern also includes moderate consumption of fish (especially the bluefish), white meat, eggs, milk and dairy products, principally yogurt and cheese (Willet et al., 1995). On the contrary, consumption of red meat, processed meats, and foods rich in sugars and saturated fats should be small in both quantity and frequency. An adequate daily intake of water should be guaranteed, as well as moderate consumption of wine (preferably the red type) is recommended. In this context, it is important to specify as the consumption of wine, especially during family meals, is due to social and religious aspects (Willet et al., 1995). On the other hand, the high consumption of vegetables, fresh fruits and whole cereals as well as the habitual use of extra virgin olive oil guarantee a high intake of monounsaturated fatty acids, carotenoids, ascorbic acid, tocopherols, various vitamins, mineral and several healthy substances, such as polyphenols and anthocyanines. The vegetable products are very important also for their intake of dietary fibre, which improves intestinal peristalsis and reduces the glycaemic index of the meal. Instead, the low consumption of red meat and its derivates, together with the moderate consumption of milk and dairy products allows to reduce the intake of the exogenous cholesterol and saturated fatty acids. On the other hand, the combined use of pulses and cereals allows to ingest vegetable proteins with high nutritional value, while the blue-fish guarantees an adequate intake of polyunsaturated fat acids. High consumption of dietary fibre, low glycaemic index and glycaemic load, anti-inflammatory effects, and antioxidant compounds may act together to produce favourable effects on health status (Visioli and Galli, 2001; Pitsavos et al., 2005; Estruch et al., 2009, 2006). Moreover, the Mediterranean Diet is associated with a lower incidence of mortality and is also related to lower incidence of cardiovascular diseases, type 2 diabetes, certain types of cancer and neurodegenerative diseases (Estruch et al., 2013; Mitrou et al., 2007; Salas-Salvadó et al., 2013; Sofi et al., 2010, 2013). However, people from Mediterranean countries are changing the traditional Mediterranean Diet and include low nutrient dense foods (such as sugared soft drinks,
sweets, bakery products, salted snacks) or vary their food processing methods (such as refinement of flour) towards a less healthy diet. These changes may have contributed to an increased risk of deficient intakes for some vitamins, especially folates, vitamins A and D, as well as inadequate intakes for the rest of the vitamins, in particular among certain population groups or collectives (Serra-Majem et al., 2002).

Finally, seasonality, biodiversity, the use of traditional and local food products are the key elements of the Mediterranean Diet for better understanding how all these differences may be translated in several “Mediterranean Diets”. These are also characterised by qualitative, cultural and lifestyle elements, such as conviviality, culinary tradition and physical activity. For these reasons, in agreement with some Authors (Bally, 2000; Corominas, 2000), could seem reductive to consider this pattern only as dietary models, while could be more appropriate to speak about the Mediterranean lifestyles.

Background of the traditional cuisine in Puglia

Puglia region has been, for centuries, a territory dominated by several dynasties that has given an inheritance of different customs and knowledge included culinary ones. The union of its historical experiences and variegated environmental characteristics of the territory has originated the traditional cuisine of Puglia, which is clearly linked to healthy principles of the ancient Mediterranean Diet. In fact, in this cuisine great space is reserved to extra virgin olive oil, vegetables, sea products and cereals. The use of these products as ingredients to prepare traditional dishes has been due to their availability in a variegated territory. Therefore, it is important to underline that the Puglia region is relatively long (350 km) and narrow (60 km) with an area of about 19,358 km². This area, open to Adriatic and Ionian Seas with a coastal zone of nearly 800 km, is prevalently level to slightly sloping, with more than 60% of territory below 200 m above sea level (Elia and Santamaria, 2013). Puglia is located in the southern part of Italy and it is possible to place this region in the centre of the Mediterranean basin. Moreover, the geographical length and the variety of orographic and pedoclimatic conditions give rise to the numerical and quantitative richness of vegetables grown in the region (Elia and Santamaria, 2013).

Puglia, which has a long tradition in vegetable growing, is particularly rich in local vegetable varieties, obtained by farmers themselves after repeated simple selection procedures generation after generation (Elia and Santamaria, 2013). Only in this Italian region a relevant number of traditional dishes can be found based on pasta and vegetables as main ingredients, which cannot be found in such number in other Italian regions. Therefore, several local varieties of vegetables for which there is a strong link with the regional traditions are used as ingredients to prepare traditional dishes of the Puglia's cuisine. On the other hand, these local vegetables are very appreciated both as refined food and for the intake of several healthy nutrients. For example, the fruits of carosello and barattiere (herbaceous plants belonging to Cucumis melo L. species) (Fig. 1) are consumed at the immature stage, fresh and raw, instead of cucumbers, due to their better quality profile. They are characterised by being refreshing and digestible as well as having high potassium and low reducing sugar and sodium contents (Serio et al., 2005). The carota di Polignano a Mare (a multicoloured landrace of Daucus carota L.) (Fig. 2) is greatly appreciated by local people for its special taste, tenderness, crispness, flavour, fragrance and great variety of colours, that range from yellow to dark purple in the outer core and from pale yellow to light green in the inner core (Cefola et al., 2012). It is used as a raw vegetable or as an ingredient in a wide range of dishes; from appetisers to desserts, the carota di Polignano a Mare shows great potential for culinary applications. Moreover, for its high content in antioxidant activity, total phenols, carotenoids and β-carotene it can be regarded also as a functional food. The interesting traits of other local vegetables used in some traditional recipes are better reported in the following paragraphs, however it is important to underline that a particular segment of typical Puglia’s vegetables is represented by wild edible plants (WEP), which includes some progenitors of cultivated vegetables.
food use of WEP is deeply rooted in the tradition of the region and they are part of many regional recipes. For example in the Foggia cuisine, WEP alone or in combination with pasta, bread (pancotto) or pulses, are always present on local tables. The historical figure of terrazzani, who are collectors and sellers of wild herbs, mushrooms, frogs, snails and lampascioni, is typical in Capitanata (Foggia province). Still today examples of this singular figure of ante litteram ecologist can be found at the local markets in Foggia and its province with their rich load of spontaneous biodiversity collected in the woods and the neighbouring rural areas. The following are significant examples for Puglia: wild cardoon, wild asparagus, rocket, wild chicory, purslane, some leaf beets and many other species (Bianco et al., 2009; Gonnella et al., 2010; Elia and Santamaria, 2013). Bianco et al. (2009) reports a list of 532 spontaneous species present in the Puglia region which have been used in the past and until recently as food, indicating the botanical family and name, common name, frequency in the territory, the edible part and how it is prepared. Some of these species have been subjected to more or less successful attempts of cultivation. The cases of lampascione, wild asparagus, rocket, wild cardoon, borage, wild fennel, sage and rosemary are indicative in this respect. Among these examples of domestication, one of the most successful is that of wild rocket (Diplotaxis tenuifolila (L.) DC.) (Fig. 3), which, since the first attempts in Italy in early 1990s, is currently grown over a 1000 ha area, mainly in greenhouses. Since 1990 there has been an increase in its consumption also due to the initiatives of some great chefs who proposed rocket in various recipes. Thus, for example, rocket is used as an ingredient in risotto, gnocchi, tortellini, different types of pasta, pizzas, piadine, with canapés and bruschetta and to prepare carpaccio. In addition, it is used by small scale artisan processors to prepare creams, sauces and pesto.

Another important trait of the traditional cuisine of Puglia is the predominant role that have cereal-based products, especially wheat. This custom is undoubtedly linked to the local habit which involves the constant presence of the bread on the table in all its many regional varieties, or the pasta of durum wheat as well as the soups that include several type of whole cereals. Cavatelli, orecchiette, lagane, maccaruni are the name of some type of traditional pasta in Puglia. Interesting is the case of the “pasta di grano arso” which is made from wheat that is toasted and then crushed. Pasta made from this type of flour tends to be purple brown. Originally, this type of wheat was obtained from gleaning the wheat fields after the stubble was burnt, when the left-over spikes from the harvest, burned in the fire, were collected. Many types of traditional pasta, bread and bakery products represent the principal ingredients of several Puglia’s recipes and are produced by the use of local varieties of wheat and the application of traditional processing. Some of these product have obtained also the Denomination of Protected Origin (DPO). It is the quality mark that is assigned by the European Union to those food products that have unique and unmistakable features that depend exclusively, or mainly, on the area where they are produced. The geographic location includes both the natural (climate, environment) and human (traditional production techniques, craftsmanship) factors which are combined to produce something that cannot be imitated outside the specific production zone. For a product with the DPO, the production, transformation and processing phases must all take place within a specific geographic area. The conditions to achieve EU recognition must be listed in a specific protocol, with the production method, the product name and description, the geographic confines and all the limitations and prescriptions relative to the product production and labelling method. For example, “pane di Altamura DPO” (bread of Altamura city) is a bakery product made from durum wheat flour, according to the ancient method of production which requires the use of starter dough, sea salt and water. The starter dough has always been a very important aspect for making traditional bakery products in Puglia as well as in other Mediterranean countries. In fact, in the past it was the only type of yeast, while nowadays it is used to obtain products with best sensorial traits. The processed flour used to prepare “pane di Altamura DPO” is obtained from the grinding of various types of durum wheat: “appulo”, “arcangelo”, “duilio” and “simeto” which are produced in the area where the bread is produced.
to be made. Bread is always been a staple diet of the population of Puglia. Large loaves used to be prepared at home and taken to public wood-burning furnaces for baking. Another type of traditional bread is pane di Laterza prepared by the use of durum wheat flour made from local varieties of wheat. The first reports relating to the production of bread in this district of Puglia dates back to the 5th century B.C. The bread, at the time known as focaccia, was made from spelt and barley, with or without yeast. It was cooked under ashes or on embers. It is important to emphasise that in the past the flour was produced with millstones (Fig. 4), allowing to obtain a whole wheat flour rich in fibre with a lower glycaemic index than present refined flours.

Finally, the virgin olive oil represents a very important ingredient of Puglia’s cuisine not only for its health properties. In fact, it contains a great number of volatile and non-volatile compounds that enrich the taste of many dishes by its fragrant and peculiar flavours. In this context the complex flavour of virgin olive oil by fruits of cultivar from Puglia is appreciated internationally by gourmets and cherished by native consumers. There are different virgin olive oils with DPO in Puglia, and each has different characteristics and traditions. For example “Terra di Bari DPO” oil is yellow to green in colour, and has a fruity flavour with a slight piquant and bitter taste. The smell is redolent of the fragrance of grass and fresh almonds. The olive growing tradition is very strong in the province of Bari. It was already a thriving trade in Roman times. It subsequently gained momentum in medieval times and spread as far Venice from where it reached other countries of Continental Europe. On the other hand, “Terra d’Otranto DPO” oil gets its name from the word formerly used by Basilian monks to indicate the area within the arc of Murge as well as within the Ionian and Adriatic coasts. In this case the cultivation of the fruit was introduced by the Phoenicians and Greeks, but it was the Basilian monks who made it a thriving activity. This type of virgin olive oil presents a yellow or green colour with greenish tint. Fruity taste that is slightly piquant and bitter and fruity fragrance with hints of leaves are also typical in “Terra d’Otranto DPO” virgin olive oil. Other typical olive oil in Puglia are “Dauno DPO”, “Collina di Brindisi DPO” and “Terre Tarentine DPO” to be tasted with vegetables and pulses as well as with crudité and fish. Puglia region with about 40 millions olive trees must only have so many wonderful virgin olive oils (Puglia Region, 2010).

Finally, it is important to underline that the food products described in this paper represent only a piece of all the variety and richness of the typical food production made in Puglia. Other several examples could be reported, nevertheless making a complete list of food products from all Puglia areas was not the aim of this work.

Puglia’s dishes: beyond a simple experience of tasting

Puglia is a land with a traditional cuisine in which sea products, vegetables and animal foods are well mixed in several recipes. Therefore, the taste and flavours of sea and countryside can combine itself in a dish to create complex sensorial perceptions but always intriguing. On the other hand, the sensorial experience of these dishes is only one of the positive reasons to consume them. In fact, many of ingredients used to prepare Puglia’s dishes have nutritional and healthy characteristics. In this context it is important to underline that some essential ingredients of the Mediterranean diet (such as cereals and their derivates, fish, legumes and olive oil) have been the criteria used for selecting the recipes. Thus, some of the recipes that characterise the traditional cuisine of Puglia as well as healthy benefits of its ingredients are showed in the following dishes. Anyway, two important aspects could be considered: (1) not always a recipe can be considered diffused in all areas of the region; (2) Puglia has a very articulated variation of typical dishes throughout all the territory.

Fave bianche e cicorie

In this dish a purée of husked broad beans (Vicia faba L.) cooked in earthenware is presented with boiled vegetables and raw Cipolla di Acquaviva delle Fonti (a local variety of Allium cepa L.) (Fig. 5). The extra virgin olive oil, poured at the end of preparation, represents not only the seasoning but also a fat source which is rich in monounsaturated fatty acids. The origin of this dish is very old, and probably it is the result of the influence of different cultures, since a similar recipe (i.e. Greek Fava) represents a traditional dish of the Greek cuisine. Anyway, fave bianche e cicorie is a very nutritious dish since broad beans are high in protein and carbohydrates with low glycaemic index. Moreover, the local habit to consume also bread together this dish improves the nutritional quality of the proteins as regards the essential amino acids content. In the traditional recipe, dried broad beans without the husk (the leathery outer cuticle) are soaked for about 10 h and then, cooked with water and some spice until a purée is obtained. The term cicorie is traditionally used to indicate WEP (i.e. Chicorium intybus var. silvestre Bischoff, Sonchus oleraceus L., Helminthoteca echioides L., etc.), however it is possible to use different types of cultivated chicory (C. intybus var. foliosum) as single vegetable or mixed with WEP. Finally, the use of Cipolla di Acquaviva delle Fonti allows to improve the chromatic aspect of this dish as well as its taste. In fact, this local
variety of onion is renowned for its sweetness and is recognised by its colour between carmine red and purple, that becomes lighter toward the inside, until it becomes completely white.

Orecchiette e cime di rapa

For this traditional recipe (Fig. 6) the most famous fresh pasta of Puglia (orecchiette) is mixed with broccoli raab (so-called cima di rapa). Orecchiette are produced by mixing durum wheat flour and water and are made in the typical round shape. According to Sada (1991) orecchiette were found in Puglia in the second half of the XVI century. It would seem that their origin is in Sannicandro di Bari (a little town of central Puglia), while the name is derived from a Jewish sweet: “orecchie di Aman” (Aman’s ears). Cima di rapa (Brassica rapa L. subsp. rapa sylvestris var. esculenta) is an ancient species of Mediterranean origin, linked to the culinary traditions of a large part of Central-Southern Italy. This vegetable is mainly cultivated in Puglia, where, since July 2006, it has been included in the list of regional traditional products. In the last decades, moreover, this vegetable has attracted the attention of an increasing number of consumers in Europe, United States, Canada, Argentina and Australia. In North America cime di rapa are also known by the names of broccoli rabe, broccoli de rabe, raab, rapa, rappini, rapini, spring broccoli, Italian turnip and taitcat (Di Gioia and Santamaria, 2009). The popularity of this typical Puglia's vegetable is probably due both to its aromatic taste and content of glucosinolates, well-known as important healthy compounds. After tasting of this dish is possible to perceive a little bitter sensation from cime di rapa. However, the overall taste is well balanced by organoleptic characteristics of both orecchiette, extra virgin olive oil and eventually hot chilly pepper and a few anchovy fillets.

Soup of pulses and whole wheat

This is an important traditional dish (Fig. 7) which was the basic food of many families in the past. Effectively, legumes and grain self-produced made it possible to satisfy both the energy needs and protein intake, so the pulses were also considered as the “poor man’s meat”. To prepare this dish several traditional pulses of Puglia are used. For example cicerchia (Lathyrus sativus L.) which is an ancient pulse similar to the chickpea, with grains that are wedge-shaped, sharp, whitish, grayish-brown, or yellowish in colour. Bean (Phaseolus vulgaris L.) of “Monti Dauni Meridionali” has pleasant taste, with good digestibility and is easy to cook because of its thin skin. Also lentil (Lens culinaris L.) of “Altamura”, pea (Pisum sativum L.) “nano di Zollino”, fava bean (Vicia faba L.) of “Carpino” and black garbanzo bean are traditional pulses used together with whole wheat to prepare this main dish.

Little savoury pie of anchovies

To prepare this dish (Fig. 8) the head of fresh anchovies is first removed, so they are opened in half, gutted and cleaned carefully. Then, the anchovies are placed in layers in a
container for adding virgin olive oil, parsley, salt, pepper and bread crumbs. The filling used to stuff the pie is made up of eggs, cheese and fresh tomato. This is a typical example of a dish in which sea ingredients are combined with products from countryside to create a dish with very special flavours. The used blue fish also allows a good intake of essential polyunsaturated fatty acids. Also in this case it is possible to underline how the origin of the recipe has been influenced by other food cultures such as the Spanish cuisine.

Salad of crenate broomrape

Crenate broomrape (Orobanche crenata Forsk.) also known as bean broomrape is a root parasite plant that produces devastating effects on many crop legumes and has become a limiting factor for faba bean production in the Mediterranean region. However, in Puglia it is considered a wild edible plant used to prepare several traditional dishes. On the other hand, crenate broomrape is interesting for its content of phenols that are both flavour components and healthy compounds as antioxidants. Traditionally, the stems are clean, washed and boiled in water and salt. After boiling, the stems are soaked in water to reduce the bitter taste and used as an ingredient in several recipes. In the present recipe crenate broomrape are used to prepare a salad with extra virgin olive oil, vinegar, mint and fresh garlic (Fig. 9). The sensory traits of this dish are complex but very intriguing. Indeed, sour and bitter taste are well combined with the pungency of the garlic and the freshness from the mint. Moreover, the lingering aftertaste and aromas make this a very tasty dish.

“Flowers” of lampascioni

Lampascioni is the common name used to indicate the bulbs of Leopoldia comosa L., that is a spontaneous plant growing in all Mediterranean area. In Puglia the bulbs of this wild edible plant were used in traditional gastronomy for different preparations. Main tasks are: cleaning of bulbs by eliminating the roots and outer tunics, cross cutting the basal plant, washing, boiling and then soaking them in water to reduce their typical bitter taste. The product is typical of the tradition of the rural farms. Bruni (1857) indicated “lampascioni sott’olio” among the different ways to use the bulb. In this recipe lampascioni have been floured and fried in extra virgin olive oil for obtaining crispy snack that reminds a “flower” (Fig. 10). It is important to underline that the use of the extra virgin olive oil for frying means no harm for your health since it has a high smoke point. The taste of this dish is really intense and intriguing with a lingering aftertaste that results aromatic and slightly bitter. Therefore, the fried lampascioni are topped with vincotto that is a brown syrup obtained from grape must. The traditional method of producing vincotto requires 12–15 h of boiling freshly crushed grape must in a large copper or steel boiler; the grape are picked late to ensure a high sugar content. Vincotto is brown with more or less intense red reflection; it is very thick and sweet because of the sugar present in the must. In the past vincotto was so precious that it became the only condiment that the people used during the winter festivities and sometimes for therapeutic purpose.

Conclusions

In this paper is reported the culture, history, identity and heritage of the traditional cuisine of the Puglia region to understand possible linkages with the Mediterranean Diet. Effectively, the culinary model of this region of Southern Italy is mainly vegetarian because only a small share of calories is of animal origin; cereals are the basic ingredient, pulses and olive oil the main protein and fat source, respectively. However, in Puglia’s cuisine sea products, vegetables and animal foods are well mixed in several recipes. Therefore, the taste and flavours of sea and countryside can combine itself in a dish to create complex sensorial perceptions but always intriguing. Nevertheless, the sensorial experience is only one of the positive reasons to consume these dishes, because many of the used ingredients have nutritional and healthy characteristics. Finally, knowledge of ancient recipes and culinary
traditions may be an opportunity for innovation in gastronomy if new culinary techniques are applied in popular and typical dishes in order to enhance their sensory and nutritional properties.

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