

## Mediterranean Diet and its Food. Health Source

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### Abstract

The Mediterranean diet has been studied and proposed for many years as a healthy and sustainable dietary pattern that also respects the cultural values of the Mediterranean basin. In this narrative review we review the health benefits of this nutritional model and the food groups that are usually present in it.

**Keywords:** Mediterranean Diet; Food

### Introduction

The diet we call Mediterranean originated in a strip of land known as the “cradle of civilization” and which is none other than the Mediterranean Sea basin. This area was the origin of numerous civilizations with great cultural contributions and one of the most important is the Mediterranean Diet, rich in local and seasonal foods, abundant in products of vegetable origin and with valuable traditional recipes.

This thousand-year-old culture includes an ideal way of eating and also a complete lifestyle, typical of the countries of the Mediterranean area, such as Cyprus, Croatia, Greece, Spain, France, Morocco and Portugal. This value led UNESCO to declare it Intangible Cultural Heritage of Humanity in 2010. The initiative to present the Mediterranean Diet Nomination arose in Spain, as a result of the collaboration between the Mediterranean Diet Foundation and the State Administration.

### Eating is much more than eating food

The Mediterranean Diet is a social practice based on the set of skills, knowledge and traditions that range from the landscape to the table, which is how UNESCO itself defines this pattern of eating and lifestyle as a cultural element that encourages social interaction.

When we speak of the Mediterranean Diet we are referring to a set of traditions, knowledge, skills related to culinary technologies and food preservation, to the cultivation of crops, to fishing and animal husbandry techniques, to the transformation of food (milk into cheese, for example), to the preparation of kitchenware and to the transport of food, among many other aspects that make up this rich heritage.

Eating is much more than simply eating food, it is a social act and doing so in company is precisely one of the main characteristics of the populations of the Mediterranean area and allows the cultural continuity of our customs and traditions. It is a time for strengthening family ties, social exchange and closer ties with our community, since it is precisely during the festivities that it is common to eat typical local dishes and, moreover, to do so by sharing a table with the people around us.

### Mediterranean diet and culture generation

In the heat of the Mediterranean Diet, recipes, songs, myths, sayings and stories have originated. All of this, together with a sensitivity to respect the environment and care for biodiversity. In the transmission of this culture, women have played a fundamental role throughout history, preserving traditional recipes from generation to generation, taking care of seasonal rhythms and safeguarding culinary techniques.

Local markets have also historically played a fundamental role in the preservation of Mediterranean tradition. They have been and are much more than a place to sell food, they are actually places where our Mediterranean Diet is preserved from a cultural point of view and also as a space for exchange.

### The Mediterranean diet and lifestyle pattern

The most recommendable way to achieve a good nutritional state is to prioritize the consumption of real foods in our diet and minimize the consumption of ultra-processed foods without being able to talk about a specific product that is capable of providing the total of essential nutrients (and other non-essential but very important ones) that our body requires. By eating different groups of foods we obtain nutrients with specific functions in our organism and this has a positive impact on our health. The Mediterranean Diet is the best way to achieve this, as it does not totally exclude any food. Nothing is forbidden (except for pathologies that justify it), everything can be eaten in its right measure, it depends on the frequency and quantity. However, it must be taken into account that foods such as sweets, processed meats or pastries are limited and reserved for very occasional consumption in specific situations.

The basic ingredients of the Mediterranean Diet are vegetables, fruits, cereals, legumes and olive oil. This model also incorporates a moderate amount of food of animal origin, giving priority to the consumption of sea products (alternating white and blue fish, cephalopods, molluscs and shellfish) over meat. Within these, special importance is given to chicken, rabbit and pork, which are healthier than red meat (whose recommended quantity is limited) and processed meat products (which are also incorporated, but with certain limitations). It also includes eggs and dairy products.

All of this, necessarily, must be accompanied by correct hydration, for which it is recommended that you drink between four and six glasses of water a day.

In addition, moderate consumption of fermented beverages (beer, wine, champagne or cider) can always be valued as a responsible choice by healthy adults. It is also essential to maintain adequate rest, an active life and healthy social relationships, as all these also contribute to preventing chronic diseases and maintaining quality of life.

### Mediterranean diet and health: The scientific evidence

Major projects such as PREDIMED (Prevention with Mediterranean Diet) and PREDIMED-PLUS, the largest research project on nutrition carried out at national and international level, have yielded very favourable results for the Mediterranean dietary pattern in terms of cardio-metabolic health and body weight [1-7].

Furthermore, there are numerous epidemiological studies that relate the Mediterranean dietary pattern to physiological benefits for our body, prevention of chronic, cardiovascular and metabolic diseases [8,9]. On the other hand, various studies have also suggested that adherence to this diet can help prevent weight gain and, in addition, allows for a distribution of body fat that is less harmful to our body. By reducing the increase in abdominal obesity [10] and obviously reducing weight and visceral fat, this has a positive impact on certain cardiovascular risk markers [11].

Taking into account that the population of the Western world is very old and tends to be even older, promoting the Mediterranean Diet may be especially interesting since it has been linked to a lower risk of certain diseases typical of the age such as brain pathologies such as Alzheimer's, Parkinson's, cognitive impairment dementias in general [12] and various types of cancer [13].

In short, the Mediterranean Diet is a true heritage that allows us to eat in a healthy and tasty way, while taking care of our health. Following this valuable lifestyle is simple and in this Guide we give you the keys to do so.

### Vegetables

Vegetables provide a high amount of minerals, fiber, vitamins, and phytonutrients (antioxidants). Therefore, it is recommended that they be incorporated into the daily diet, especially in the Mediterranean area where we have a wide variety of these products of the highest quality.

At least 2 portions of vegetables should be consumed per day (ideally try to reach at least 400 grams of vegetables per day) and one of them in raw form. The consumption of vegetables has been associated with a reduction in the risk of diabetes, some types of cancer and cardiovascular disease, among other pathologies [14,15].

### Fruits

Fruits provide us with soluble fibre, vitamins, minerals and antioxidants and their frequent consumption reduces the risk of suffering from chronic and cardiovascular diseases [15]. It is recommended to consume at least 3 portions per day. It is preferable that it be whole, fresh fruit to ingest more fibre, achieve a greater satiating effect and not exceed the caloric intake.

Traditionally, it has been suggested that at least one of the fruit portions should be rich in ascorbic acid (vitamin C) as is the case with mandarins, oranges, lime, grapefruit, lemon or kiwi.

### Dairy products

Milk and dairy products (curd, cottage cheese, cheese, yoghurt and fermented milk) are a group of foods with a significant contribution of protein (highly digestible and with a high biological value) and calcium. Specifically in Spain, dairy products are a group of foods with a high consumption and provide a significant (although not very high) and constant amount of phosphorus, magnesium, potassium, zinc and vitamins A, D, B2 and B12.

The Spanish Society of Community Nutrition recommends the consumption of 2 - 4 portions per day of good quality dairy products.

Various studies suggest cardiometabolic benefits derived from dairy consumption [16-20].

## Fish and seafood

Fish and seafood are a great source of proteins of high biological value and also provide minerals such as iodine, vitamins such as D and healthy fats, particularly polyunsaturated fats, especially Omega 3, which as they are essential, cannot be processed by the body and must be consumed. It is interesting to alternate blue fish (salmon, mackerel, sardines, or bonito) which are the richest in Omega 3 with white fish (sole and hake) and with seafood. There is scientific evidence that associates the consumption of fish with a lower cardiovascular risk [21].

It is recommended to eat about 4 portions of fish per week.

## Meats

It is a group of foods that, like fish, provides proteins of high biological value, minerals such as iron and zinc and vitamins such as B12.

As far as processed meats are concerned, the World Cancer Research Fund (WCRF) warned in 2007 of the importance of moderating the consumption of red meat and especially processed meat products [22], something that the results of various studies also advise [23-28].

The Spanish Society of Community Nutrition, recommends that the consumption of meat is about 3 or 4 portions (a portion is a small portion of 100 - 125 grams) per week, but always giving priority to white meat and limiting red meat to two or three times a month.

## Vegetables

Lentils, beans, chickpeas and peas provide a significant amount of vegetable protein and if we mix pulses with cereals we get higher quality protein. They are also a good source of soluble fibre, complex carbohydrates, minerals and vitamins.

There is growing scientific evidence indicating that daily consumption of legumes can help reduce blood pressure, the risk of colon and rectal cancer, LDL-cholesterol levels and may even be an aid in weight control [29-32]. It is recommended to consume legumes 2 - 4 times a week, but several studies suggest extra health benefits with a minimum consumption of 4 times a week up to daily consumption.

## Cereals

Cereals have traditionally been the basis of the Mediterranean diet and are thus referenced in the Food Pyramid. Above all, they provide carbohydrates, as well as fibre, vegetable proteins, vitamins and minerals. Corn, wheat (bread, pasta), oats and rye are examples of cereals and because of their richness in carbohydrates, potatoes and other tubers (such as sweet potatoes) are usually included in this group, although it is true that they are not exactly the same because they have less protein and a higher glycemic index.

Especially interesting are whole grain cereals (richer in fibre, minerals and vitamins) and in fact their regular consumption has been linked to better weight control, lower risk of cancer and improvements in cardiovascular and metabolic health [33-35].

## Oils and fats

There are essential fatty acids and fats are therefore necessary. It is true that their consumption should be limited, because in excess it will trigger kilocalories, however, we must specify that not all fats are equal. In general, the consumption of saturated fats should be limited. These mainly come from animals, although there are also vegetable sources.

In the Mediterranean model we are very lucky to have olive oil (extra virgin olive oil is the best option) as a base for dressings and cooking and this is, without doubt, the most recommendable option since there is strong scientific evidence that associates its consumption with a lower risk of suffering from cardiovascular and metabolic diseases [36-39].

### Nuts and dried fruit

Nuts provide a significant amount of healthy fats and fibre, as well as vegetable proteins, complex carbohydrates, vitamins (such as E which has a strong antioxidant effect), minerals and phytonutrients.

These foods provide many kilocalories derived mainly from their richness in fat. However, despite their high energy density, both the World Health Organization (WHO) and various scientific societies do not consider them as foods to be withdrawn. In fact, there is scientific evidence that their regular consumption is associated with a lower risk of suffering from metabolic diseases, cancer and other cardiovascular pathologies [40-44].

It is recommended to consume between 3 - 7 portions of nuts and dried fruit each week, taking into account that a portion is considered to be about 20 - 30 grams of edible portion.

### Sugars

The excess and abuse of free sugars (sucrose or others such as glucose or fructose) is associated with an increased risk of obesity, cardiovascular and metabolic diseases [45]. The World Health Organization (WHO) recommends that when free sugars are ingested, they should provide less than 10% of total daily energy needs and indicates that a reduction in consumption to less than 5% of total daily energy needs may imply certain improvements in health (although with respect to this last point there is not as much scientific evidence). This amount would be equivalent to about 7 lumps of sugar.

The drawback is not the intrinsic sugar present in the food, as is the case with fruit, for example, the problem is the free and added sugars present in the food that we sometimes even consume without being aware of it and that can trigger our daily sugar intake.

However, this does not mean that occasional, moderate consumption is prohibited.

### Ultraprocessed foods

When we speak of ultraprocessed foods we are referring (following the NOVA classification) to those whose preparation starts with processed ingredients, so that they do not have fresh ingredients that can be identified in them. This is the case of buns or cookies. Their consumption should be occasional since their intake is related to the risk of obesity and cardiometabolic alternations [46].

### Traditional herbs and spices as allies in a healthy diet

Including aromatic herbs and spices in our diet allows us to obtain appetizing dishes without the need to abuse salt and fatty condiments. They are also part of the Mediterranean tradition [47].

On the other hand, their consumption brings advantages for our organism derived from their richness in antioxidants and other phytonutrients.

### Fermented beverages within the Mediterranean diet

Fermented beverages, especially wine and beer, but also cider, have traditionally been part of the Mediterranean diet culture. Their consumption has been typical in the Mediterranean basin and these drinks and everything around them transcend the culinary, gastronomic and nutritional fields, being a culture in itself.

In the Healthy Eating Pyramid of the Spanish Society of Community Nutrition, the consumption of fermented beverages (beer and wine) appears as “optional, moderate and responsible in adults” and in fact, it specifies a maximum intake of 1 - 1.5 portions per day of these alcoholic beverages in women and 2 - 2.5 portions per day in men.

There is scientific evidence indicating that a moderate consumption of fermented beverages such as beer, provided it is made within a healthy dietary pattern adjusted to the Mediterranean pattern, could have positive effects at the physiological level, derived from the antioxidant effect of polyphenols and other phytochemicals present in this type of beverages [48]. Specifically, in the case of beer, it seems that Xanthohumol could be a prominent compound. Xanthohumol is a flavonoid present in hops, and therefore in beer, which also contributes to bitterness. Various studies suggest an interesting role for Xanthohumol in the possible physiological effects of beer in relation to cardiovascular and metabolic risk [49].

### Eggs in the Mediterranean diet

Eggs are a food group with an interesting contribution of protein of high biological value as well as a source of B-group vitamins. They are an interesting group of foods that are not related to increased risk of disease but to benefits for the body [50].

### Conclusion

The Mediterranean diet is a healthy dietary pattern that includes food groups with interesting physiological effects and respects the cultural traditions of the Mediterranean basin. This is why it is a nutritional model to be preserved and maintained.

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