

Editorial



Virgin olive oil: Its functional capacity

Mediterranean diet represents a healthy nutritional model related with longevity and a lower frequency of chronic diseases, in special coronary heart disease. This dietary model is based on a high intake of plant foods, moderated consumption of fish, wine, yoghurt and cheese, and low intake of meat and sugar based food. Most part of these foods are also present in other healthy dietary models, as vegetarian diet, the recommended diet by the National Cholesterol Education Program or the Oriental diet. However, at the contrary of those, Mediterranean diet has, as its more typical feature a higher content in total fat consumption. This is because of a high intake of virgin olive oil, the more emblematic food and main source of fat in the diet, which high content of oleic acid (the more ubiquitous monounsaturated fat) makes it the predominant fatty acid in this dietary model. Traditionally, olive oil has been the only alimentary fat containing primarily monounsaturated fat in its composition. Nowadays, other edible oils contain fatty acid compositions similar to that of the olive oil, namely high-oleic sunflower oil and rapeseed oil and, from a macronutrient perspective, all of them could help to provide a high oleic acid Mediterranean diet. However, virgin olive oil has the exclusivity of being a real juice and its composition includes not only fat but also other nutritional components that are not present in any other edible oil, because these must be obtained through complex physical and chemical methods that include high temperature and chemical treatments, that results in partial or total loss of many of micronutrients. These components,

“Virgin olive oil has the exclusivity of being a real juice and its composition includes not only fat but also other nutritional components that are not present in any other edible oil”

responsible to the unique nutritional value of virgin olive oil, include several hundreds of non fatty micronutrients, as squalene, vitamins and antioxidants.

During several decades, research effort was oriented to identify the mechanism throughout nutrients and especially fats, could influence cardiovascular health. The best-known benefits associated with diets with high content in virgin olive oil were related with the influence of monounsaturated fat on LDL (Low Density Lipoprotein) and HDL (High Density Lipoprotein) cholesterol metabolism. In view of the available scientific evidence the Food and Drug Administration (FDA) announced in November 2004 the availability of a qualified health claim for monounsaturated fat from olive oil and reduced risk of coronary heart disease. However, recent evidences suggest that Mediterranean diet may also provide additional benefits by acting on other classical and novel cardiovascular risk factors implicated in the development of atherosclerosis. Whereas some of these effects could still be explained by the presence of monounsaturated fat, others are more probably due to other minor

components, as phenolic compounds, with antioxidant and antiinflammatory properties, chemopreventive activity, and capacity to improve vascular function. In this way, virgin olive oil is an important source of these components and its presence in the diet could guarantee not only a high intake of oleic acid but also of minor components, absent or scarce in other plant edible oils.

In the last years interest of nutritionists and food industry is growing about functional foods, which together with its nutritional effects have also physiologic effects and are able to enhance health. The contributions included in this issue provide the state-of-the-art regarding the healthy effects related with the consumption of virgin olive oil within the context of a Mediterranean diet and a healthy life style. Such wide spectrum of benefits do very attractive this food as an excellent example of functional food.

Francisco Pérez Jiménez
University of Cordoba