

## Non-alcoholic fatty liver disease and beneficial effects of dietary supplements

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### Abstract

I read with great interest the review published by Eslamparast *et al*, on the dietary supplements with hepato-protective properties, and their proposed mechanisms to protect against non-alcoholic fatty liver disease. In this way, recently, our study group reported the efficacy of the Mediterranean diet associated to an antioxidant complex, to improve in overweight patients

not only anthropometric parameters, but also insulin-resistance, lipid serum levels, and intra-hepatic fat accumulation.

**Key words:** Non-alcoholic fatty liver disease; Metabolic syndrome; Mediterranean diet; Milk thistle; Antioxidant

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**Core tip:** The prescription of an antioxidant rich dietary regimen by the physicians and nutritionists, may represent an appropriate approach on non-alcoholic fatty liver disease, in clinical practice.

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### TO THE EDITOR

I read with a great interest the review published by Eslamparast *et al*<sup>[1]</sup>, on the dietary supplements with hepato-protective properties, and their proposed mechanisms to protect against non-alcoholic fatty liver disease (NAFLD). Actually, NAFLD is emerging as one of the most common chronic liver diseases worldwide, and represents one of main cause of hepatology referral in some centers. NAFLD is a clinical syndrome that ranges from simple fatty liver, to non-alcoholic steatohepatitis, to advanced fibrosis, and cirrhosis<sup>[2]</sup>. It is associated with insulin-resistance, obesity, and dyslipidemia, which are the main features of the metabolic syndrome (MS). NAFLD and MS are often seen in the same individual, and it has been reported that nearly 90% of the subjects affected by NAFLD, have more than one component of MS. In fact, the NAFLD patients are inclined to a

higher energy intake, and in particular to a greater carbohydrate intake when compared with the healthy subjects<sup>[3]</sup>.

Currently dietary modifications and physical exercise, should be recommended in clinical practice for the management of NAFLD. The general recommendations for the diet are individualized, depending on the body weight of the subject, and one should aim to achieve energy restriction of 500-1000 kcal/d. Total fat and reduced saturated fat, should constitute less than 30% of the total energy input, with an increase in soluble fibre intake and the decrease of refined sugars consumption. The recommended physical activity is 60 min/d for at least 3 d/wk, and the physical exercise should be progressively increased to 5 d/wk<sup>[4]</sup>. The reduction of hepatic fat deposition is directly related to the lifestyle intervention, and requires a weight loss of 5% to 10%.

The traditional Mediterranean diet, is a dietary pattern that has been associated with a favourable health profile, mainly in relation to cardiovascular diseases, cancers, and in the treatment of MS<sup>[5]</sup>. It has been hypothesized that carotenoids, fibres and folic acid, characteristic components of this diet, can play a central role in preventing or slowing oxidative stress phenomena. In addition the vegetables, important elements of the Mediterranean diet, are the main source of phytosterols and a natural cholesterol-lowering agent, that reduce cardiovascular risk. Finally, Mediterranean diet can improve the serum level of adiponectin, a soluble matrix protein expressed by adipocytes and hepatocytes, reduced in insulin resistance, type-2 diabetes, and obesity, and linked with development of liver steatosis. Recently, our study group reported the efficacy of the Mediterranean diet associated to an antioxidant complex with silybin phytosome complex (silybin plus phosphatidylcholine) and with vitamin E in improving in

overweight patients not only anthropometric parameters, but also insulin-resistance, lipid serum levels, and intra-hepatic fat accumulation<sup>[6]</sup>. In this way, the prescription of an antioxidant rich dietary regimen by the physicians and nutritionists, may present an appropriate approach in clinical practice. It can play a main role in the prevention and in the treatment of several chronic diseases, and in particular in the management of NAFLD.

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