

Peanuts with high oleic-acid content reduced fat accumulation in the liver

Peanuts are one of the recommended nut types for the population, with recommended consumption ranging from 28-56 g / day. In Israel, there are two high-yielding varieties, Harari and Hanoch, which are highly nutritional in both protein and phytochemicals (compounds found in all vegetation and fruits that can be attributed to nutritional and health properties). Some of the health benefits of peanuts are attributed to their nutritional composition. Due to the great awareness of olive oil as a high nutritional quality and as a mean of preventing metabolic and even protective measures, in recent years Israel has been cultivating varieties of peanuts with a high content of oleic-acid, which is actually equal to that of olive oil. The latest cultivar was called D7 that its oleic-acid content is 80% of the total fats in the seeds.

Despite the extensive use of peanuts and their positive effects, very little research has been done to examine the effect of peanuts consumption with high-oleic acid content on metabolism. In the past four years, we have conducted a comprehensive study on the subject. We found that the addition of D7 to a standard diet in mice led to the reduction of triglycerides in the blood as well as levels of lipids, triglycerides and fatty acids in the liver. This was accompanied by a decrease in the level of expression of a protein that is responsible for the transport of fatty acids into the liver (referred to as 36CD). In addition, D7 rich diet altered the composition of fatty acids in favor of the group of omega 3 (known as anti-inflammatory).

The fatty liver disease is very common in the population and is characterized by a primary symptom of fat accumulation in the liver that can lead to the development of fatty liver, diabetes and high lipid levels. Therefore, we also analyzed the effect of peanuts rich with oleic acid supplementation on the development of the disease and its signs caused by a rich fat diet. Results were similar to those obtained on a standard diet. Peanuts with high oleic-acid content led to a decrease in the accumulation of lipids, triglycerides and free fatty acids in the liver. It should be noted that Hanoch and Harary also led to a decrease in these parameters, but this effect was more significant in the group that consumed the D7 diet. Interestingly, the histological findings of liver tissue support these results and show significantly less fat accumulation in the D7 group. Despite the evidence of a clear health benefit in preventing fat accumulation in the liver and preventing the development of the fatty liver disease by consuming oleic acid-rich diet, we have not seen this as related to changes in gene expression associated with lipid synthesis in the liver. Recently, many studies have shown a link between the type of food consumed and the type of microbiota that develops in the intestines. We show that the addition of oleic acid-rich stomachs to a standard diet and a high-fat diet contributes to the creation of a more host-friendly microbiota and is associated with a healthier phenotype. Especially the development of a bacterial population related in the metabolism of carbohydrates. When we examined the "loading" of 56 g of D7, Hanoch and Harary as a meal for healthy volunteers, we did not notice any change in lipid profile in this blood despite the

fatty load volunteers received. This means that daily consumption of peanuts up to 56 g is recommended and is not a factor in calorie loading. Therefore, in light of the findings of our work, it can be concluded that the consumption of peanuts in general and especially in the high-oleic7D cultivar has a positive potential advantage for the prevention of primary symptoms of fatty liver.