

Health starts from the grocery shopping

NUTRI-lipidomics

Molecular nutrition and healthy diet



Foods as epigenetic modulators and low-grade systemic inflammation

How can a food play such an important role in determining a state of health or illness?

The answer is epigenetics with epigenetic modulators. Each food is made up of molecules (**epigenetic modulators**) that can activate or silence **DNA**, through a mechanism of methylation / demethylation, in the production of certain substances with anti-inflammatory or pro inflammatory activity, without necessarily modifying the structure of the DNA itself.

This mechanism is also observed in the presence of **oxidative stress**, a condition determined by the excessive presence of **free radicals**, due to an imbalance between the production of oxidizing and antioxidant molecules.

The continuous production of pro-inflammatory substances caused by a bad dietary lifestyle, pollution and chronic stress, activates and increases a condition known as 'inflammaging' or low-grade systemic inflammation. This condition, if procrastinated can lead to diseases such as metabolic syndrome, diabetes, cardiovascular diseases, cancer, dementia. This is one of the reasons why it is important to choose one's own diet, intended as a food lifestyle, reducing the consumption of industrial foods in favor of simple foods, even self-produced ones.

We read the label, starting from the ingredients

The hidden ingredients

How often do we stop to read the ingredients of the package of organic biscuits, low in fat or without added sugar? We often live in the belief, driven by marketing, to follow a healthy diet, but it is enough to dwell on reading the ingredients to understand that it is not exactly the product we expected it to be. There is a very simple rule to teach school-age children: **the rule of 5 ingredients.**

Suppose we want to buy a baked product, we read the ingredients and we realize that it contains more than 5, without forgetting that **the most representative ingredient** is the one that is presented first in the list. If in these biscuits, perhaps organic and whole wheat spelled, the first ingredient is cane sugar (it is still sugar) it is good to opt for a better choice.

In fact, if at home we wanted to make cookies we would not exceed the famous 5 ingredients, therefore our biscuits would have a 'shelf life' clearly inferior to those with more ingredients and several months of shelf life.

Very often we find **sugar** in its different forms (sugar, glucose syrup, dextrose, etc.), not only as an ingredient, but as a **"preservative"** in the most unexpected products such as bresaola, frozen vegetables, pre-cooked vegetables in a jar, dehydrated fruit, etc.

Another ingredient belonging to the 'hidden' category is salt, present in many foods and under the most varied forms, from the common sodium chloride to ascorbates, nitrates and nitrites, glutamates, etc. These substances are used as **additives.**

Additives are nothing more than substances that are intentionally added for a technological purpose. There are several EU regulations that govern their use



and a list of those authorized by the food safety guarantor, **EFSA**, which also establishes the limits of use. A person who feeds mainly on industrial foods will certainly exceed the 'threshold dose', since it is the sum of the additives present in the different foods that determine the total quantity of intake.

Fats... feared foods

Not all fats are the same. It is important to check the quantity present and the type of food we put in the shopping cart. From the nutritional table, which must always be read in conjunction with the list of ingredients, we can know how many fats are present and of these how many belong to the "saturated" category.

For the more experienced it is also possible to compare the list of ingredients, where the fats used are described, with what is stated in the nutritional table. The consumption of **saturated fats**, especially if associated with a constant consumption of carbohydrates poor in fiber, or worse, **trans fats**, increases the aforementioned **inflamming**.

It is good to choose foods produced with extra virgin olive oil or possibly elevate oleic sunflower oil, avoiding those in which low quality oils, hydrogenated fats, margarines or additives with mono and diglycerides of fatty acids are used.

KM 0 and SEASON FOOD... we start from the raw materials!

Here are some guidelines to choose what to bring to the table:

- Prefer fresh and unpackaged fruit and vegetables. In particular, vegetables already washed and packaged in plastic bags should be avoided. This vegetable is completely un bacterized, so it cannot act as a "probiotic". **Biodiversity** is important for maintaining balance and this is also true within our intestines. Using sanitizers also for food, unless you are in a condition of immunodeficiency, is a practice to be advised against. Instead, the consumption of **fermented foods** deriving from bacterial fermentation should be encouraged, such as kefir, yogurt, bakery products made with sourdough, as well as with ancient grain flours, natural vinegar, fermented olives, fermented sauerkraut, etc. Fruits, vegetables and fermented foods are also rich in micronutrients, vitamins and minerals essential for our health.
- Fish caught and not bred, preferably oily fish for the greater presence of **omega 3**. For those who do not consume fish, a good alternative is to add seaweed in their diet.
- The consumption of meat must be decidedly reduced, choosing meat from animals that are not from intensive farming and that feed on fodder and not additive flour. This discourse can be extended to all those foods of animal origin such as milk and derivatives and eggs, since we feed on what the same animal has assumed.
- We integrate our diet with whole grains, in grains (rice, spelled, barley, oats, sorghum, etc.) and with legumes, often forgotten foods.

Good shopping at all!

Bibliography:

http://www.salute.gov.it/portale/salute/p1_5.jsp?lingua=italiano&id=238&area=Vivi_sicuro
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4389409/>
<https://eur-lex.europa.eu/legal-content/IT/ALL/?uri=CELEX%3A32011R1129>

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The dietary advice in this article is not intended to replace a personalised dietary plan and should be adapted to specific cases.

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