

## Report on cosmetic drinks:

### Nutritional characteristics and prevention of skin aging.

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Skin is a highly dynamic organ, constantly producing new cells to replace old ones. The epidermis is renewed (at a rate of 2 square meters of surface) every month. This requires the continuous intake of nutrients, antioxidants and hydration, substances that reach skin from the inside, through the constant blood supply (300ml/min).

Healthy-looking skin is associated with health and youth and, in some cases, with a biological age that is younger than the chronological age. On the other hand, the appearance of wrinkles and actinic damage or spots, is indicative of aging.

Skin aging is triggered by the breakdown of the dermis and epidermis, primarily due to oxidative damage caused by free radicals and by a reduction in cells' capacity to repair DNA damage. In addition, oxidation produces malondialdehyde, a substance that polymerizes collagen, resulting in loss of elasticity and a diminished capacity to hold water.

External factors, primarily UV rays, contribute to skin aging as do internal factors resulting from an improper or imbalanced diet. There is no question that caring for skin requires protecting it from the sun's UV rays and other environmental factors (pollution, smoking, etc.) However, skin care must also - and to a greater degree - address the inside, through healthy foods that provide skin with essential components and a proper caloric intake.

In this context, the last few decades have seen a major surge in the development of quality cosmetics that can prevent or delay the skin aging produced by external agents. Antioxidants (Vitamins A, C, E, Selenium, carotenoids, polyphenols, etc.) that neutralize free radicals are essential cosmetic components, as are specific nutrients such as

Vitamins B6 and B12, niacin, pantothenic acid, biotin, Vitamin D, hyaluronic acid, collagen and more.

But we must rule out the idea that using cosmetics is enough to protect skin. In truth, to keep skin healthy is must be protected from the inside, through foods that provide an appropriate quantity and variety of nutrients and antioxidants.

A good diet is one with moderate caloric content that avoids obesity or anorexia, and have an adequate lipid profile. A hypercaloric diet increases the concentration of free radicals and oxidative stress, and a hypocaloric diet may cause anorexia, which produces dry skin, hair loss and irregularities in fingernails. With regard to lipid intake, we know that animal (saturated) fats increase the risk of cardiovascular disease, while the oleic and omega-3 unsaturated fatty acids present in olive oil and fish reduce that risk; they also promote epidermal growth and a mature lamellar lipid membrane.

It is especially important that adults consume the antioxidants necessary for skin care because with age, our metabolism gradually loses its ability to fight free radicals. An antioxidant deficit produces oxidative stress and damage to key molecules (proteins, lipids and DNA), which increase the risk of chronic diseases (cardiovascular, cancer, neurodegenerative), and produce skin aging.

Antioxidants occur naturally in plant-based foods and drinks. All plant foods (fruits, greens, grains, legumes, dried fruits, oils), and natural drinks (fruit juices, infusions, not soft drinks), contribute to our daily intake of antioxidants and determine our system's antioxidant status. And a good antioxidant status is essential to maintaining good general and skin health.

An appropriate diet provides blood with a quantity and variety of antioxidants which are carried to the skin and all other organs; these, then, fight oxidants using diverse mechanisms. A few practical tips based on scientific knowledge developed over the last two decades may help achieve a sufficient intake of antioxidants. The first general recommendation is that antioxidants be consumed in foods and not in capsules, pills, granules or other supplements. This is very important, and the reason is simple: the

positive effects of antioxidants do not stem from a particular antioxidant but from the synergy and cumulative effect of an elevated number of substances, including vitamins A, C, E, Se, carotenoids (beta-carotene, lycopene, lutein), polyphenols (flavonoids, anthocyanins, resveratrol, hydroxytyrosol) and many others.

Numerous clinical and epidemiological studies have shown that taking antioxidants in the form of supplements produces no positive health effect and even, at times, causes negative effects. Why? Because isolated antioxidants ingested in the form of pills or capsules not only fail to improve the synergy between all of the antioxidants in our diets, they can even disrupt the qualitative and quantitative balance of antioxidants and harm our health.

The only safe and effective way to consume antioxidants is through food, which should provide us around 2 grams of antioxidants of different kinds each day. The recommendation is to consume natural antioxidant-rich foods and drinks, especially fruits and vegetables and fruit juices. This will let us consume the necessary quantity and variety of antioxidants, which in turn helps us prevent diseases and skin aging.

We should point out here that, up until now, research and scientific practices in nutrition and medicine - and in cosmetics - have focused solely and exclusively on low molecular weight antioxidants (vitamins, carotenes, selenium, etc.) Recent research, however, has found a new type of natural antioxidants called Macro-antioxidants®, which are found in plant foods. Macro-antioxidants® have highly significant biological activity; they work in a manner that is different and complementary to traditional antioxidants, which are characterized by having a low molecular weight. The surprising thing is that Macro-antioxidants® are not in the minority - as initially thought - but rather represent about 50% of all antioxidants in our diets. This may signify a scientific and technological shift in nutritional and medical research and in new product development.

It is in this context that beauty drinks come on the scene. These are well-designed drinks created with fruits that are rich in antioxidants, such as pomegranates, mangos,

oranges, grapes, raspberries and others. Their antioxidant profile is very complete; they contain a great variety of substances, including low molecular weight antioxidants such as hydroxytyrosol, punicalagins and flavonoids, which have a recognized positive health effect and are typically consumed in a Mediterranean diet, as well as Macro-antioxidants®. It should be noted that these are the first drinks in the world with a formula that includes Macro-antioxidants®. They also contain vitamins B (B-complex vitamins) and other known cosmetic substances such as collagen, hyaluronic and pantothenic acids, biotin, etc.

Beauty Drinks are a new, healthy science-based product that can contribute to preventing skin aging from the inside.

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