Nutrition in Our Visual Health

Editorial

Nutrition has a great influence in our health. Due to that we can incorporate to our organism important nutrients that participate in many metabolic processes inside us. There are too many vitamins and amino acid that we can’t produce and it’s necessary get it from diet. Most of them are only in fruit and vegetables.

In the clinical field, nutrition has been mainly considered in relation to the prevention of chronic systemic diseases, and has been given less importance, in practice, to the role of optimal nutrition as a factor to achieve a prophylactic good eye health. In this field, nutrition is also important for the vision process. Nutrients such as vitamins A, C, D and E, lutein and zeaxanthin, have essential function on visual health, and they can avoid or prevent diseases like cataract, dry eye syndrome, age-related macular degeneration, and so on.

People usually think that eating beef they can cover all nutritional necessities and forget about fruit and vegetables. It’s important to make a balance among all the components of the diet because each one has an important role in our health. Since remote times researches in relation to the participation of certain foods in eye health have been done. As Olmedilla explains: “the Papyrus of Ebers, thousand five hundred years before Christ, describes the use of liver in the treatment of the hemeralopia, early symptom of vitamin A deficiency”. Since those times to our days, many studies have been done by researches, and it’s evident that the deficiency of vitamins affects several people around the world.

Vitamin A (retinol) is a fat-soluble vitamin that is naturally present in the food. It is essential in the regeneration of rhodopsin; whose light decomposition allows the process of vision. It also participates in the growth and development, epithelial cell integrity, immune function and the reproduction. Antioxidants, lutein and zeaxanthin are carotenoids found in high concentration in the macula, and higher intakes of fruits and vegetables are inversely correlated with age-related macular degeneration prevalence. We can find vitamin A, lutein and zeaxanthin in beef liver, salmon, greens, orange and yellow vegetables, broccoli and carrots, fruits such as melon, apricot and mango, and dairy products.

Vitamin C, known as Ascorbic acid, is a water-soluble nutrient that is found in certain foods, especially citrus. In the human body acts as an antioxidant, helping to protect cells against the damage caused by the free radicals. This vitamin allows prevent the onset of cataracts neutralizing the action of free radicals and it is present normally in the lens of the eye. Due to that, the American Academy of Ophthalmology recognized as a cause of the appearance of cataract severe malnutrition and oxidative stress.

Other micronutrients are also involved in this important structure of ocular anatomy, so that we have identified in some studies that a high consumption of vitamin A, lutein and zeaxanthin, is associated with a 20% to 30% reduction in risk or need to get to the extraction of the crystalline lens. Foods that are sources of vitamin C include citrus fruits (oranges and grapefruit) and their juices, as well as kiwi, red and green peppers; other fruits and vegetables, such as broccoli, strawberries, melon, baked potatoes and tomatoes.

Vitamin D is a hormone produced by the skin whose function is to capture calcium from the external environment. It has been reported that vitamin D deficiency is present in patients with dry eye syndrome. It can be explained from the mechanism that describes the existence of vitamin D at the level of the cell barrier eye receptors and suggested that this vitamin has a relevant role in immune regulation and barrier function in the epithelial cells of corneal eye.

Vitamin E is a fat-soluble nutrient present in many foods. It acts as an antioxidant, protecting cells against damage from free radicals. It stimulates the immune system; it helps to dilate blood
vessels and prevent the formation of blood clots in our interior. In addition, the cells use vitamin E to interact with each other and perform numerous functions. It is also important and necessary to prevent cataracts. We can find vitamin E in vegetable oils, wheat germ, sunflower and safflower; oils from corn and soybean; nuts (peanuts, hazelnuts and almonds); sunflower seeds; and green vegetables such as spinach and broccoli. A balanced diet allows to get the sufficient amounts of vitamins and minerals needed to prevent ophthalmological diseases. It’s important to get all the nutrients that we need through diet to have a healthy life. Definitely, nutrition has a very relevant role in our visual health.