

# Vitamins and Micronutrients that will optimize your eye health.

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Accepted on December 15<sup>th</sup>, 2021

## Introduction

A healthy diet and nutrition are crucial for overall health and growth, which also applies to the eyes. Nutrients and micronutrients in our meals are essential for cellular regeneration, tissue health, and disease prevention.

Regular exercise and a well-balanced diet are essential for overall health and protection against a variety of diseases. These will assist you in having excellent vision and healthy eyes, as well as achieving an ideal body weight for overall health [1].

## Eye health

Diet is an important lifestyle aspect that can affect ocular health in the long run. The 'Nutrition and Eye Health' Special Issue of Nutrients contains 12 articles, including reviews and primary research studies, that cover a wide range of topics related to the role of nutrition in eye health and the potential use of nutritional interventions for preventing or treating ocular disease. These studies cover a wide range of ocular disorders, including corneal angiogenesis, cataracts, diabetic retinopathy, age-related macular degeneration (AMD), and experimental retinal disease models. In addition, clinically focused studies discuss the validity of a unique food frequency questionnaire for monitoring long-chain omega-3 fatty acid intake in eye care practise, as well as evidence on the use of saffron to treat a variety of ailments [2].

Around 250 million people worldwide suffer from varied degrees of eyesight loss. Several eye disorders discussed in this Special Issue, such as cataract, AMD, glaucoma, and diabetic retinopathy, are among the leading causes. These illnesses disproportionately affect older adults, and the number of people affected is expected to rise exponentially as the population ages. While the aetiology of age-related vision loss is complicated and diverse, oxidative stress has been identified as a prevalent cause. Because of its high oxygen consumption, high content of polyunsaturated fatty acids, and chronic exposure to high-energy visible light, the eye is particularly vulnerable to oxidative stress. Reactive oxygen species are produced as a result of this mix of circumstances, which can cause oxidative damage to ocular tissues.

## Specific components of food that help healthy eyes

### Antioxidants

Antioxidants are micronutrients that assist the eye fight the harmful effects of free radicals and other oxidants while also

preventing indications of ageing [3].

### Vitamins

Vitamins A, C, and E are the most commonly studied antioxidants. Citrus fruits and vegetables, such as oranges and other citrus fruits, tomatoes, and green leafy vegetables, include them expressly. They're also found in nuts, seeds, dairy products, and a variety of other foods. Vitamins A, C, and E, as well as selenium, are crucial nutrients for preventing cataracts and macular degeneration. Night blindness, dry eyes (xerosis), and macular degeneration all benefit from vitamin A. Vitamin C is a powerful antioxidant that fights free radicals, promotes healthy blood vessels, and protects the eyes from UV radiation damage. Vitamin E is recognised to help with brain functioning and to control enzyme activity.

### Lutein and Zeaxanthin

Yellow and orange peppers, sweetcorn, saffron, kale, spinach, and broccoli contain both of these yellow plant pigments. Lutein and zeaxanthin are nutrients that cannot be synthesised by the human body and must be obtained through diet. They are particularly beneficial in illnesses of the macula [4].

### Essential fatty acids

Essential fatty acids are required for the growth of cells and the synthesis of cell membranes. Omega 3 and Omega 6 Fatty Acids are the two types of important fatty acids that are vital for eye health. They are known to promote nerve transmission in the retina and prevent cell membrane degradation, lowering the risk of macular degeneration and glaucoma visual loss. Oily fish like salmon and halibut, walnuts, flaxseed, soybean, and dark leafy vegetables all contain Omega 3 Essential Fatty Acids. Linoleic acid, vegetable safflower, sunflower oil, and grape seeds are all good sources of Omega 6 Essential Fatty Acids.

Beta-carotene, alpha-carotene, gamma-carotene, and beta-cryptoxanthin are carotenoids that are precursors of visual pigment and have an action comparable to that of vitamin A. Astaxanthin is a fat-soluble carotenoid that has been shown to reduce the risk of cataracts, retinal detachments, and macular degeneration.

### Minerals

Zinc, Chromium, Copper, and Selenium are key minerals that aid in the rejuvenation of the eye and the improvement of eyesight [5].

## Conclusion

It is critical to consume a diverse range of foods in your diet. Consuming whole grains and cereals can help reduce your chance of developing age-related eye disorders. Healthy fats should be a part of your daily diet. Essential fatty acids have been shown to aid in the prevention of dry eyes and cataracts. All coloured fruits and vegetables are high in vitamins and minerals, notably yellow and red fruits and green leafy vegetables. Choose high-quality protein sources, but restrict saturated fats from red meat and dairy items, which may raise your risk of macular degeneration. Protein is abundant in lean meats, oily fish, nuts, legumes, and eggs, which are also significant sources of iron.

## References

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