

YOUNG PEOPLE LACK SOURCES OF CAROTENOIDS IN THE DIET



Certain fruits and vegetables are rich in non-vitamin carotenoids, such as lutein, beta-carotene and zeaxanthin, which tend to be found in green leafy vegetables, and orange/yellow fruits and vegetables. Egg yolks are also a rich source.

Studies suggest that non-vitamin carotenoids are important for normal eye function and health due to their high concentration in the macula¹, and association with a lower risk of macular conditions in intervention trials².

A new study from Russia³ has suggested that young people are failing to consume recommended amounts of non-vitamin carotenoids. Dietary intakes were estimated in 424 people aged 20-25 years (27% male) using the 24-hour recall method. Intakes of lutein and zeaxanthin levels were then calculated from food sources and compared against an average intake of 9 mg per day, as per local recommendations.

The results showed that only 6% of young people were eating the recommended amount of lutein and zeaxanthin, while the majority were consuming less than half of this target. The top three sources of non-vitamin carotenoids were eggs, raw tomatoes and lettuce, while 100% orange juice provided 6% of intakes.

Orange juice contains 0.7 mg carotenoids per 100 mL, providing 1.1 to 1.4 mg per typical serving⁴. Yet a survey of European 2099 healthcare professionals revealed two-thirds were unclear that 100% fruit juices delivered carotenoids and polyphenol⁵.

As concluded by the researchers of the Russian study: "major food sources [of carotenoids] were included in the diet in insufficient quantities." This suggests that, as well as aiming for at least five portions of fruit and vegetables daily, people should try to choose colourful options that are rich in carotenoids, such as kale, broccoli, 100% orange juice, carrots and peppers.

FOR MORE INFORMATION, SEE:

1. Bernstein PS et al. (2016) Lutein, zeaxanthin, and meso-zeaxanthin: The basic and clinical science underlying carotenoid-based nutritional interventions against ocular disease. *Prog Retin Eye Res*; 50: 34-66.
2. Khoo HE et al. (2019) Nutrients for Prevention of Macular Degeneration and Eye-Related Diseases. *Antioxidants* 8(4): E85.
3. Korolev A et al. (2019) The content of lutein and zeaxanthin in the diet of young healthy people. *Curr Dev Nutr* www.ncbi.nlm.nih.gov/pubmed/31224957
4. <https://fruitjuicematters.eu/en/new-science/new-data-on-the-composition-on-orange-juice>
5. <https://fruitjuicematters.uk/en/new-science/europe-wide-ipsos-survey-reveals-expert-views-about-fruit-juice>

Disclaimer: Every effort has been made to ensure that the information contained in this document is reliable and has been verified. The information is intended to be used as a basis for non-commercial communications to a professional audience of healthcare professionals and media only. Information contained in this document should not be used as nutrition or health claims in communication directly targeting consumers. Users of this document should be aware that the use of this information in a different context as indicated or modifications of the information such as changes in the wordings, omissions or additions, as well as adding pictorials can have legal consequences. The AIJN shall therefore have no liability whatsoever for any loss or damage resulting from the use of this document or the information contained herein. The AIJN does not guarantee the accuracy of or endorse the views or opinions expressed by third parties on this document, and expressly disclaims any and all liability resulting from reliance on such information or opinions.