

9. Nutrients. 2020 Sep 28;12(10):2966. doi: 10.3390/nu12102966.

Clinical Effects of Dietary Supplementation of Lutein with High Bio-Accessibility on Macular Pigment Optical Density and Contrast Sensitivity: A Randomized Double-Blind Placebo-Controlled Parallel-Group Comparison Trial.

Machida N(1), Kosehira M(2), Kitaichi N(3).

Author information: (1)Omnicia Co., Ltd. TN Koshikawa Building 5th floor 4--21-7 Itabashi, Itabashiku, Tokyo 173-0004, Japan. (2)Graduate School of Pharmaceutical Sciences, Josai University, 1-1 Keyakidai, Sakado-city, Saitama 350-0295, Japan. (3)Department of Ophthalmology, Health Sciences University of Hokkaido, 1757 Kanazawa, Tobetsu-cho, Ishikari-gun, Hokkaido 061-0293, Japan.

Improvements in macular pigment optical density (MPOD) and contrast sensitivity after administration of 12 mg lutein alone and the timing at which efficacy is observed remain unknown. Therefore, lutein (12 mg), a crystalline formulation, was used in this study, considering its bioaccessibility. This study aimed to determine the effects of lutein administration for 16 weeks on MPOD, contrast sensitivity, and glare sensitivity, and changes in serum lutein levels were determined. The study subjects comprised 59 healthy male and female adults aged 20-69 years. The study diet included a placebo (placebo group) or a diet supplemented with 12 mg of lutein (lutein group). Each study diet was continuously administered for 16 weeks. At weeks 8 and 16, MPOD, contrast sensitivity, glare sensitivity, and serum lutein levels were evaluated. Compared with the placebo group, the lutein group showed significantly improved MPOD, contrast sensitivity, and glare sensitivity at week 16 and significantly increased serum lutein levels at weeks 8 and 16. Continuous administration of lutein for 16 weeks, considering its bioaccessibility, increased MPOD; it made the outlines of visible objects clearer and was effective in inhibiting decreases in visual function caused by glare from light.

DOI: 10.3390/nu12102966 PMID: 32998324 [Indexed for MEDLINE]

Conflict of interest statement: The expenses for this study and study diet were covered by Omnicia Inc.