

Oral sea buckthorn oil and dry eye syndrome

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The effect of oral sea buckthorn (SB) oil was studied in 100 individuals ages 20-75 in a double-blind, placebo-controlled study. Participants took 2 gm/day of SB oil or placebo oil for 3 months. Eighty six participants completed the study. Tear film samples were collected at the beginning, after one month, and at the end of the study period of 3 months and then 1 and 2 months later.

In this trial, oral supplementation of SB oil in people with dry eyed participants for 3 months did not result in any changes in the fatty acid composition of the tears, but it did have a positive effect on osmolarity and symptoms of dry eye including burning and redness.

Commentary: The risk of dry eye is associated with older age and in hormonal changes associated with menopause. Dry eyes can be caused by a deficiency of fluid and disturbances in the tear flow or excess evaporation of the tear film. Both types are associated with increased osmolarity of the tear film and inflammation of the surface of the eye. This hyperosmolarity can activate inflammation and interference of tear film production and stability. Sea buckthorn oil is rich in several different oils and contains a high proportion of linoleic, alpha linolenic and oleic acids as well as tocopherols, phytosterols and carotenoids. Because the fatty acid composition of the tear film did not change when given SB oil, but yet some symptoms did improve, there must be some other mechanism at play. These potential mechanisms include the anti-inflammatory effects of fatty acids, the carotenoids and/or the tocopherols found in the SB oil.

Previous research has shown that SB oil inhibits the rise in tear film osmolarity that occurs during the winter cold and has a positive effect on dry eye symptoms. There have been only a few other oils studied for dry eye syndrome including fish oil, evening primrose oil and flax seed oil.

Reference

Jarvinen R, Larmo P, Setälä N, et al. Effects of oral sea buckthorn oil on tear film fatty acids in individuals with dry eye. *Cornea* 2011;30;9:1-13-1018.