

Omega-6/Omega-3 fatty acid balance and skin elasticity

This study was performed by BioActive Foods in cooperation with Zinzino.

Fatty acids are important for many functions of the skin. They act as building blocks in the skin cells, they lubricate the skin, and they protect the skin from irradiation. Polyunsaturated fatty acids are also precursors for “local hormones” and signaling molecules such as eicosanoids.

STUDY: In this study 50 female voluntaries were divided into two groups; one group consumed 2 table spoons of BalanceOil+ daily, while the other group functioned as a control group, meaning that they followed their daily diet without any intake of omega-3 supplements.

BalanceTest was used to measure the participant’s fatty acid profile in whole blood at 0, 30, 60 and 200 days. The elasticity of the skin was measured with a scientific device, Cutometer MPA 580 (Courage + Khazaka electronic GmbH) at day 0, 30, 60 and 200 in the area below the eye.

In the group that consumed BalanceOil+ daily, the Omega-6/Omega-3 fatty acid balance normalized from an average of 15:1 to 4.8:1 in 60 days, while the marine omega-3 (EPA and DHA) levels increased to 6.4 % in the blood. For the skin elasticity, the statistical analysis showed a significant improvement ($p < 0.05$) in skin elasticity in the test group compared to the control group after 60 days of consuming 2 tbsp of BalanceOil+ daily. The general improvement in skin elasticity from day 0 to day 60 showed to be around 12 % for the test group.

A smaller group of the female participants from the test group continued the study after day 60, and had their fatty acid profile and skin elasticity measured after intake of 0.15 ml BalanceOil+ x body weight, 200 days after the start of the study. Results from day 200 showed that the Omega-6/Omega-3 fatty acid balance stabilized at around 3:1 for the participants. The general improvement in skin elasticity from day 0 to day 200 for the group of women who continued the participation showed to be around 22 %.

The study showed that the Omega-6/Omega-3 fatty acid balance was normalized after intake of BalanceOil+ for more than 60 days, in addition the EPA and DHA values in blood increased. Daily intake of BalanceOil improved the skin elasticity.

Scientific studies show that the long chained fatty acids EPA and DHA affects the membrane fluidity of the cells, in addition EPA and DHA are precursors to signaling molecules that can increase the blood flow to the skin, increasing the production of collagen and elastin which is important for the elasticity of the skin. Aging, smoking, exposure to UV radiation or a poor diet affects skin aging. Skin aging can be thought of as a weakening of the skin, where the skin gets thinner, dryer, have a longer healing time and it gets less elastic. So skin elasticity is an important component for anti-aging of the skin.

In this study BalanceOil+ was used.



The following health claims on the marine omega-3 fatty acids EPA and DHA are approved by EFSA (Commission Regulation (EU) 1924/2006 and 432/2012)

DHA and EPA contribute to the normal function of the heart (0.25 g per day)

DHA and EPA contribute to the maintenance of normal blood pressure (3 g per day)

DHA and EPA contribute to the maintenance of normal blood triglyceride levels (2 g per day)

DHA contributes to maintenance of normal blood triglyceride levels (2 g per day in combination with EPA)

DHA contributes to maintenance of normal brain function (0.25 g per day)

DHA contributes to the maintenance of normal vision (0.25 g per day)

DHA maternal intake contributes to the normal brain development of the fetus and breastfed infants (0.2 g

DHA plus the daily recommended intake of omega-3 fatty acids (EPA+DHA) for adults which is 0.25 g per day).

DHA maternal intake contributes to the normal development of the eye of the fetus and breastfed infants (0.2 g

DHA plus the daily recommended intake of omega-3 fatty acids (EPA+DHA) for adults which is 0.25 g per day).

