

**Effect on blood pressure of diets enriched with different sources of n-3 fatty acids in healthy adults**

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**Background:** Consumption of n-3 fatty acids from algal-oil supplements and plant sources produce health benefits, which may be dependent on the reduction in blood pressure.

**Aim and Methods:** To determine if plant sources (flaxseed oil and walnuts) of  $\alpha$ -linolenic acid (ALA) produce similar change in blood pressure (BP) as algal-oil (EPA/DHA) supplements, we performed a randomized 4x3 cross-over study (4 diets and 3 8-week study periods) in 24 healthy adults (15 women, 9 men; mean $\pm$ SE age 42 $\pm$ 2.7 years; BMI 25.4 $\pm$ 0.9 kg/m<sup>2</sup>). Under controlled feeding conditions, subjects consumed eucaloric lacto-ovo vegetarian diets: Control, ALA (6-7g/2400 kcal/d), EPA/DHA (0.20/0.72g EPA/DHA per 2400 kcal/d), and, Combination (ALA + EPA/DHA). Under controlled conditions, 6 BP readings, (3/day on 2 days) were taken at the beginning and end of each diet period.

**Results:** Significant ( $p < 0.001$ ) reduction in systolic BP were observed in all four diets: Control (-2.64%), EPA/DHA (-2.42%), ALA (-1.64%) and Combination (-1.85%) while non-significant ( $p > 0.05$ ) reduction were observed in the diastolic BP: Control (-2.03%), EPA/DHA (-2.51%), ALA (-0.05%) and no change for the Combination diets (0.0%). No significant differences in BP between diets were observed.

**Conclusion:** Following diets enriched with ALA, EPA/DHA or a combination of these fatty acids for 8 weeks do not seem to affect BP when compared with the control diet.