



The effects of Eicosapentaenoic acid (EPA) on migraine Prophylaxis



Tsai-Ning Lu⁵, Hsin-Ni Shih^{1,3}, Chun-Pai Yang^{1,2*}, Hsueh-Fang Wang¹, I-Ju Tsai⁴, Yu-hui Lin², En-Ling Yeh¹

¹ Department of Nutrition and Institute of Biomedical Nutrition, Hungkuang University, Taichung, Taiwan.

² Department of Neurology, Kuang Tien General Hospital, Taichung, Taiwan.

³ Sleep Center, Kuang Tien General Hospital, Taichung, Taiwan.

⁴ Department of Medical Research, Kuang Tien General Hospital, Taichung, Taiwan.

⁵ Nutrition Center, Kuang Tien General Hospital, Taichung, Taiwan.

Background

Migraine is a chronic and recurrent disorder that should be treated for its disabling effects. However, patients often stop treatment due to side effects or poor efficacy. If there is an auxiliary treatment method relieve the frequency, duration and pain degree of migraine attacks, it can further improve the patient's quality of life and promote health.

Method

Patients with migraine were targeted for the study and were collected from March 2020 to May 2021 at Kuang Tien General Hospital. Voluntary participants aged between 20 and 65 met the 3rd edition diagnostic criteria of the International Headache Society for the diagnosis of migraine were recruited and signed the informed consent form. All participants took one dose of the test substance after breakfast and one dose after dinner for 12 weeks. The trial group (EPA group) took 1 g/dose of fish oil formula (including EPA 900 mg/capsule) and the placebo control group took 1 g/dose of 100% soybean oil. Questionnaires were used to analyze the patient's headache and quality of life at the onset of the treatment, including: Migraine Disability Assessment (MIDAS), Migraine Specific Quality (MSQ), Hospital Anxiety and Depression Scale (HADS).

Result

34 participants were randomized in the EPA group and 30 in the placebo control group. The average age of the EPA group was 39.9 ± 10.9 years and placebo control group was 39.9 ± 9.2 years. The average number of headache days per month in the EPA group was 7.2 ± 5.6 days and in the placebo control group was 6.2 ± 4.4 days; After 12 weeks of intervention, participants in the EPA group showed significant improvements ($p < 0.05$) in frequency of headaches, monthly occurrence of moderate/severe headaches, number of days with acute headache medication intake per month, and MIDAS score.

Conclusion

After 12 weeks of continuous use, a fish oil formula containing EPA 900 mg reduced the frequency, duration, and pain level of migraine attacks; and further improved the quality of life of migraine patients. Therefore, fish oil containing 900 mg of EPA may be considered an adjunctive preventive treatment for patients with migraine.