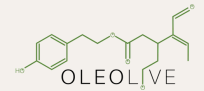


Oligen™



FOR BRAIN HEALTH

BACKGROUND:

The Mediterranean diet (MD) is a combination of foods rich in antioxidants and anti-inflammatory nutrients with extra-virgin olive oil (EVOO) being a major component. The health beneficial properties of EVOO are attributed to phenolic compounds, including phenolic alcohols, hydroxytyrosol and tyrosol, as well as secoiridoids such as oleocanthal (OC), oleacein (OLC), oleuropein and others (1). Oleolive has patented a scalable process of extraction of these phenols, and we term this mixture Oligen. Secoiridoids, like OC and OLC, have antioxidant and anti-inflammatory properties, therefore, are predicted to exhibit neuroprotective properties (2). Preclinical and clinical studies support consumption of phenolic-rich EVOO to maintain healthy brains (3-11).

TAKE HOME MESSAGE:

Neurodegenerative diseases such as Alzheimer's disease are major worldwide healthcare problems. It is estimated that by 2050, over 16M people will suffer from AD in the US alone. The MD is considered one of the healthiest dietary plans in the world and epidemiological studies support the health benefits and importance of EVOO in promoting brain health and reducing the risk of neurodegenerative disease. OLIGEN, extracted from EVOO, is a mixture of phenolics and secoiridoids enriched in OC, and as highlighted below, data supports this mixture to be a potent neuro-protective cocktail.

SUPPORTIVE CLINICAL AND EPIDEMIOLOGICAL DATA:

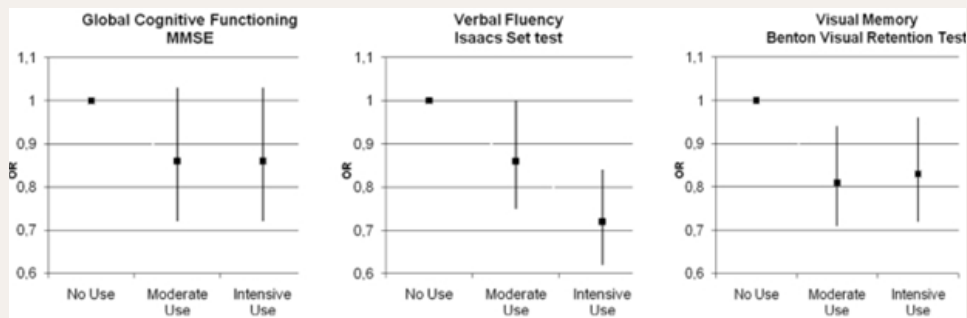
In 2020 a large scale placebo controlled trial called the MICOIL study was completed and the results published in the Journal of Alzheimer's Disease (3). Subjects with mild cognitive impairment were divided into three groups. Group 1 received High Phenolic EVOO, Group 2 received Medium Phenolic EVOO and Group 3 just received MD instructions.

Results: Better follow-up performance was found in Group 1 compared to Group 2 and Group 3 in almost all cognitive domains. Moreover, Group 2 showed significant improvement in cognitive measures compared to Group 3 in ADAS-cog ($p = 0.001$) and MMSE ($p = 0.05$), whereas Group 3 exhibited worse or similar to baseline performance in almost all domains. In particular, Group 1 and Group 2 had better outcomes with regards to ADAS-cog ($p = 0.003$), Digit Span ($p = 0.006$), and Letter fluency ($p = 0.003$). Moreover, there was a significant difference ($p = 0.001$) in the presence of APOE4 between the Groups 1 and 2 versus Group 3. APOE4 is a genetic driver of Alzheimer's disease

Conclusion: Long-term intervention with HP-EH-EVOO or MP-EVOO was associated with significant improvement in cognitive function compared to MD, independent of the presence of APOE4. (3)

These data from the MICOIL trial are consistent with epidemiological data supporting the use of EVOO as a neuroprotective agent (Fig. 1 from ref. 4). Finally, a recent study published from Harvard University demonstrated consumption of high phenolic EVOO reduced deaths by Alzheimer's disease by 29% (12).

Fig 1. Cross sectional association between olive oil use and cognitive deficit at baseline: risk of cognitive deficit in olive oil users expressed by the odds-ratio value with 95% confidence interval calculated with logistic regression model. (from ref 4)



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*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.