



Qrahep

YAGONA 215 mg Capsules

(A blend of Oleoylethanolamide, Vitamin E and L- Valine)

La Renon

INTRODUCTION:

Non-alcoholic fatty liver disease (NAFLD) is a condition in which fat builds up in the liver. The more severe form of NAFLD is called non-alcoholic steatohepatitis (NASH). NASH causes the liver to swell and become damaged.

NAFLD prevalence rates in the general population are estimated at 25%. NASH prevalence in the general population is estimated at 1.5% to 6.45%, and 41% within the NASH group develop fibrosis progression.

OEA in the Management of NAFLD:

Oleoylethanolamide (OEA) is an endogenous lipid produced in the body, usually found in the intestines.

OEA is peroxisome proliferator-activated receptor α (PPAR α) agonist acts on the peripheral control of energy metabolism as elaborated below.

1. Dietary Oleic Acid (OA): When it enters the enterocytes through the FAT/CD36 transporter that leads to the production and mobilization of OEA, which interacts with PPAR- α in the enterocyte to regulate gene transcription. It is transferred to the tissues and OEA is produced in the peripheral tissues, which bind to PPAR- α in the adipocyte and cause lipid droplet lipolysis and the release of fatty acids from the adipose tissue for uptake in oxidative tissues.

2. In the Liver: Activation of PPAR- α by OEA in hepatocytes and muscle promotes fat utilization via elevated uptake of fatty acids and fatty acid oxidation. OEA-PPAR- α interaction in the liver reverses oxidative stress and inflammation by attenuating the secretion of pro-inflammatory mediators involved in NAFLD development and progression.

3. In the Muscles: Increased fatty acid transport in muscle and decreased hepatic triglyceride accumulation through the breakdown of lipid droplets.



CLINICAL PUBLICATION:

Oleoylethanolamide supplementation in obese patients newly diagnosed with non-alcoholic fatty liver disease: Effects on metabolic parameters, anthropometric indices, and expression of PPAR-α, UCP1, and UCP2 genes.

Aim: To examine the effects of OEA supplementation along with weight loss intervention on the expression of PPAR-α, uncoupling proteins 1 and 2 (UCP1 and UCP2) genes in the peripheral blood mononuclear cells (PBMCs), metabolic parameters, and anthropometric indices among obese patients with NAFLD.

Study Design: 76 Obese patients newly diagnosed with NAFLD were recruited in this triple-blind placebo-controlled RCT, conducted. The patients were randomly assigned in a 1:1 ratio to either the OEA or placebo group.

Dosage: Patients in the intervention group received two capsules of OEA daily (one capsule 30 min before lunch and one capsule 30 min before dinner), each containing 125 mg OEA, while those in the placebo group received the same amount of starch capsules for 12 consecutive weeks.

Pre and post intervention phase: mRNA expression levels of PPAR- α , UCP1, and UCP2 genes in the PBMCs, serum levels of metabolic parameters as well as diet and appetite sensations were assessed. There was a significant increase in the expression levels of PPAR- α , UCP1, and UCP2 genes in the PBMCs, compared to the placebo at the endpoint.



Fig: The effect of an intervention on PPAR-α, UCP-1 & UCP-2 expression in two study groups:a) Fold change of PPAR-α. b) Fold change of UCP-1. c) Fold change of UCP-2.

Result: A significant decrease in the anthropometric indices, energy and carbohydrate intakes, glycaemic parameters, except for haemoglobin A1c concentration was also observed in the OEA group, compared to the placebo group. OEA treatment significantly resulted in decreased serum levels of triglyceride (TG), alanine aminotransferase (ALT), aspartate aminotransferase (AST), ALT/AST, increased serum levels of high-density lipoprotein cholesterol (HDL-C), and improved appetite sensations. Importantly, a significant improvement in TG, ALT, AST, ALT/ AST, HDL-C levels as well as appetite sensations by OEA were under the influence of body mass index (BMI).

Conclusion: The present study, for the first time, revealed that OEA supplementation significantly improved anthropometric and metabolic risk factors related to NAFLD.





DESCRIPTION:

Each vegetative capsules of QRAHEP contains Oleoylethanolamide 200 mg, Vitamin E 10 mg & L-Valine 5 mg.

MECHANISM OF ACTION:

OEA Importance in NAFLD management:

- O Increasing the expression of PPAR- α and other PPAR- α target genes;
- ② Modulating the energy homeostasis and feeding behaviour, leading to the control of food intake;
- ③ Enhancing fatty acid uptake, lipolysis, and oxidation;
- ④ Regulating lipid levels in circulation and tissues;
- ⑤ Improving the metabolism of apolipoproteins;
- ③ Decreasing the hepatic accumulation of TG in the liver, leading to the inhibition of hepatic steatosis;
- ⑦ Reversing oxidative stress and inflammation by interfering with the activation of inflammatory and profibrotic signaling pathways.

Valine has therapeutic potential for reducing hepatocarcinogenesis in patients with cirrhosis by restoring the immune functions.

Vitamin E is a potent antioxidant that has shown to reduce oxidative stress in NAFLD.

QRAHEP is a NOVEL APPROACH towards managing NAFLD/ NASH patients by most importantly- modulating and utilization of fat deposited/accumulated in the liver by various approaches that are- fatty acid transport leading to β-oxidation, promoting β-oxidation of fat & inhibiting the synthesis lipid (fat). Also, it regulates many co-factors involved in conditions like inducing satiety- leading to fed state scenario- so there is no excessive dietary fat, attenuating the liver inflammatory cytokines- making the condition less severe and inhibition of cholesterol synthesis which is the main complication in these conditions.

INDICATION:

QRAHEP is used in the management of NAFLD (Non-alcoholic fatty liver disease) & NASH (Non-Alcoholic SteatoHepatitis).

DOSAGE:

The recommended dose is one capsule per day or as suggested by healthcare professional.



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