



Unsaturated Fatty Acids and their Effects on Non-alcoholic Fatty Liver Disease

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DESCRIPTION

The most prevalent liver illness in the world, Nonalcoholic Fatty Liver Disease (NAFLD), is currently the second most common reason for Liver Transplantation (LT) in the United States. Currently, NAFLD affects about 25% of the world's population. Additionally, from 2.1% to 16.2%, there was a 7.7-fold rise in the percentage of individuals with Hepatocellular Carcinoma (HCC) as a possible cause of Nonalcoholic Steatohepatitis (NASH) [1]. Additionally, the percentage of NASH patients has risen in recent years. NASH prevalence rates are currently claimed to be between 1.5 and 6.45%, and 7% to 30% of individuals with NAFLD also have the disease, which is likely an underestimate considering that histology biopsy is required for diagnosis. In addition, men are more likely than women to develop NAFLD, which may be linked to estrogen's anti-fibrosis properties. Despite the fact that the prevalence of NAFLD is rising annually, the disease's progression will also raise dangers for the heart and liver. Because there are no effective medications for treating NAFLD, diet control and lifestyle modification remain crucial methods of both prevention and treatment [2]. Nuts are food sources of plant protein, unsaturated fatty acids, fiber, minerals, vitamins, tocopherols, phytosterols, and polyphenols, which are bioactive chemicals that are good for our health. Although several researches have looked into the impact of nuts on liver and cardiovascular illnesses, the outcomes may vary because different studies used different types of nuts. However, the total study found that nut consumption was linked to lower inflammation and insulin resistance, as well as protection against Type 2 Diabetes Mellitus (T2DM), the Metabolic Syndrome (MetS), obesity, and arterial hypertension [3]. It is reasonable to presume that nuts have an effect on the development of NAFLD as inflammation, oxidative stress, and IR are thought to be important drivers of NAFLD. A recent study, however unfinished, claimed that patients who ate nuts more than four times per week experienced a significant decline in NAFLD. Consumption of nuts, Monounsaturated Fatty Acids (MUFA), and Polyunsaturated Fatty Acids (PUFA) may all have a significant impact on NALFD.

The most prevalent liver condition, NAFLD, affects 50% of diabetics and 90% of obese people. NAFLD is frequently linked to metabolic syndrome, which includes diabetes, hyperlipidemia, obesity, hypertension, etc., according to recent findings. Due to hormone levels in women and perhaps because estrogen has an anti-liver fibrosis impact, women have a decreased risk of developing NAFLD than men. Loss of estrogen can result in liver fat buildup, which raises the risk of NAFLD. According to studies, women had a much higher risk of developing NAFLD and more severe liver fibrosis after menopause. Consuming nuts was linked to a decreased risk of developing NAFLD. It is based on the particular nutritional makeup of nuts. According to studies, a Mediterranean diet rich in nuts may greatly reduce the insulin resistance that almost all NAFLD patients have. Bioactive fatty acids control the function of liver cells, and linolenic acid from nuts can up-regulate insulin receptors. The risk of NAFLD can be decreased by dietary fiber, vitamin E, and phenolic substances, all of which have anti-inflammatory and antioxidant properties. Additionally, a key contributor to NAFLD is an imbalance in gut flora, which nuts can control to lower the chance of developing. This study also demonstrated that nut consumption can lower the risk of NAFLD [4]. It is advised that individuals with hyperlipidemia consume 3.74 g of nuts per day, and diabetic patients should consume 3.74 g. There is no need to modify nut intake for these patients because hypertension appears to have little impact on nuts and NAFLD.

However, other studies have suggested that polyunsaturated fatty acids may also influence the activity and/or abundance of transcription factors that govern the expression of genes encoding proteins involved in liver fat metabolism, hence reducing the risk of NAFLD. Additionally, by a number of biochemical processes such as lowering NAFLD degeneration indicators, raising lipid metabolism gene expression, and lowering adipogenic activity, polyunsaturated fatty acids and monounsaturated fatty acids efficiently reduce liver steatosis [5]. In conclusion, 2.82 g of nuts per day are advised. Men are better suited than women to consuming nuts. People with diabetes should consume 3.74 g per day, while patients with hyperlipidemia should eat more nuts accordingly. Less than

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Received: 02-Nov-2022, Manuscript No. JLR-22-18817; **Editor assigned:** 07-Nov-2022, Pre QC No. JLR-22-18817 (PQ); **Reviewed:** 28-Nov-2022, QC No JLR-22-18817; **Revised:** 05-Dec-2022, Manuscript No. JLR-22-18817 (R); **Published:** 12-Dec-2022, DOI: 10.35248/2167-0889.22.11.150.

Citation: Pan Q (2022) Unsaturated Fatty Acids and their Effects on Nonalcoholic Fatty Liver Disease. J Liver. 11:150.

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30.02 g/day of polyunsaturated fatty acids should also be consumed.

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