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Milk Thistle Oil and Its Beneficial Effects on the Liver and Hepatic Diseases

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| ARTICLE INFO | ABSTRACT |
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| Article Type: Letter to Editor | The plant Silybum marianum, commonly known as milk thistle, has been recognized for |
| Article History: Received: 20 Mar 2024 Revised: 25 Mar 2024 Accepted: 1 Apr 2024 Available online: 30 Jun 2024 | its natural medicinal properties since ancient times in the Mediterranean region and continues to be used in both traditional and modern medicine. This letter highlights the effects of milk thistle oil and its role in liver protection. The active compound, silymarin, is noted for its strong antioxidant properties, which help protect liver cells |
| <i>Keywords:</i> Medicinal plant, Milk thistle, Essential oil, Liver diseases, Treatment | from oxidative damage by inhibiting lipid peroxidation and reducing free radicals. Additionally, silymarin aids liver health by reducing inflammation and enhancing protein synthesis. Evidence suggests that milk thistle oil can lower liver enzymes in patients with non-alcoholic fatty liver disease (NAFLD) and improve clinical symptoms of conditions such as hepatitis C and liver cirrhosis. Thus, milk thistle oil, with its |
| * Corresponding authors: E-mail: petrolinik1@gmail.com | antioxidant and anti-inflammatory properties, can be an effective adjunct treatment for preventing and managing liver diseases. However, further research is needed to better understand the mechanisms of action and clinical applications of this plant. |

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Dear Editor,

Milk thistle oil is derived from the seeds of *Silybum marianum* and is recognized for its medicinal properties, especially as a valuable herbal remedy for liver health in both traditional and modern medicine. This plant has been used medicinally since ancient times in the Mediterranean region. This article will explore the active compounds in milk thistle oil, its mechanisms of action on the liver, and the existing scientific evidence in Mediterranean region (Marceddu et al., 2022).

Active Compounds

Milk thistle oil contains several active compounds, the most notable of which is silymarin. Silymarin is a complex of flavonoids, including silibinin, silidianin, and silicristin, known for their strong antioxidant properties. Silibinin, the most active component of silymarin, plays a crucial role in protecting liver cells (Marmouzi et al., 2021).

Mechanism of Action of Milk Thistle Oil on the Liver

Silymarin's antioxidant properties help protect liver cells from oxidative damage by inhibiting lipid peroxidation and reducing free radical production (Khazaei et al., 2022). Additionally, silymarin acts as an anti-inflammatory agent by inhibiting inflammatory signaling pathways, thereby preventing liver tissue inflammation (Khazaei et al., 2022). The compound also enhances protein synthesis and cell repair, improving overall liver cell health. Furthermore, it provides additional protection by inhibiting the entry of toxins into liver cells (Khazaei et al., 2022).

Traditional and Modern Effects of Milk Thistle Oil on the Liver

In traditional medicine, milk thistle oil has been used effectively for treating liver problems such as hepatitis and liver cirrhosis, and for enhancing overall liver function and digestion (Afzal et al., 2024). Modern studies have confirmed the beneficial effects of silymarin in improving liver function. For instance, research indicates that silymarin can reduce liver enzymes such as ALT and AST in patients with nonalcoholic fatty liver disease (Ibrahim et al., 2022).

Studies and Scientific Evidence

Numerous clinical studies have shown that milk thistle oil and silymarin can improve liver function in patients with hepatitis C, non-alcoholic fatty liver disease, and liver cirrhosis (Abenavoli et al., 2010). One study found that daily consumption of silymarin for eight weeks resulted in reduced liver enzyme levels and improved clinical symptoms in patients with non-alcoholic fatty liver disease (Eita et al., 2022). Additionally, laboratory studies have demonstrated that silymarin can prevent liver fibrosis and, in some cases, help reverse liver damage (Aghemo et al., 2022). These findings suggest that silymarin and milk thistle oil can play a significant role in the prevention and treatment of liver diseases.

In conclusion, milk thistle oil, particularly the silvmarin it contains, is recognized as a valuable adjunct therapy for improving and protecting liver health. The anti-inflammatory, antioxidant, and protective properties of these compounds, supported by extensive scientific evidence, highlight the high potential of this plant in preventing and treating liver diseases. Nevertheless, further studies are needed to gain a deeper understanding of the precise mechanisms of action and clinical applications of milk thistle oil.

Conflict of interest

There are no conflicts of interest.

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Ethical considerations

All ethical issues (including plagiarism, misconduct, data fabrication, falsification, double publication, or redundancy) have been thoroughly observed by the author.

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