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# «XALQARO LOYIHALAR VA TA'LIM DASTURLARIDA ZAMONAVIY YONDASHUVLAR»

mavzusidagi xalqaro ilmiy-amaliy konferensiyasi

# THE USE OF PREPARATIONS MADE FROM SILYBUM MARIANUM GAERTN. L. IN MEDICINE

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**Abstract**. Silybum marianum Gaertn. L., commonly known as milk thistle, has been widely used in traditional and modern medicine, primarily for its hepatoprotective properties. Its key bioactive component, silymarin, exhibits strong antioxidant, anti-inflammatory, and detoxifying effects, making it beneficial for liver diseases such as hepatitis, cirrhosis, and fatty liver disease. Furthermore, recent studies suggest its potential role in diabetes management, cardiovascular health, and even cancer treatment.

**Keywords**: Silybum marianum, milk thistle, silymarin, hepatoprotection, antioxidant, liver diseases, detoxification, diabetes, cardiovascular health, cancer therapy, pharmaceutical preparations.

**Introduction**. Throughout history, medicinal plants have played a significant role in healthcare, and Silybum marianum Gaertn. L., commonly known as milk thistle, is no exception. Not only has it been used in traditional medicine for centuries, but it has also gained recognition in modern medicine due to its numerous health benefits. In

particular, this plant is well known for its ability to protect and support liver function. [4, 199-206]. First and foremost, Silybum marianum contains a range of bioactive compounds, the most important of which is silymarin. This compound is a mixture of flavonolignans, including silybin, silydianin, and silychristin. In addition, the plant is rich in polyphenols, essential fatty acids, and proteins, which all contribute to its therapeutic effects.

One of the primary reasons why milk thistle is widely used in medicine is its hepatoprotective properties. Since the liver is responsible for detoxification, metabolism, and various essential functions, it is crucial to maintain its health. However, the liver is highly susceptible to damage from toxins, alcohol, and certain medications. Fortunately, silymarin helps protect liver cells by stabilizing their membranes and promoting protein synthesis. As a result, it supports liver regeneration and prevents further damage.

Additionally, silymarin increases the levels of glutathione, a powerful antioxidant that plays a key role in liver detoxification. This means that milk thistle helps the body eliminate harmful substances, making it especially beneficial for individuals suffering from liver diseases such as cirrhosis, hepatitis, and fatty liver disease.

Apart from its hepatoprotective effects, Silybum marianum exhibits strong anti-inflammatory and antioxidant properties. Since chronic inflammation is linked to numerous diseases, including diabetes, cardiovascular conditions, and even cancer, reducing inflammation is essential for overall health. Moreover, oxidative stress contributes to aging and many degenerative diseases. Therefore, by neutralizing harmful free radicals, milk thistle helps protect cells from damage and supports longevity.

Furthermore, some studies suggest that silymarin can enhance the immune system. On the one hand, it stimulates white blood cell production, which improves resistance to infections. On the other hand, it helps modulate immune responses, making it useful for individuals with autoimmune disorders or weakened immune systems [5, 72-86].

When it comes to pharmaceutical applications, milk thistle is available in various forms to suit different medical needs.

1. Capsules and Tablets – These are the most common and convenient forms, as they contain standardized extracts of silymarin and ensure precise dosage.

2. Liquid Extracts and Tinctures – These are often preferred in herbal medicine because they allow for easier absorption and flexible dosing.

3. Injectable Solutions – In severe liver conditions, injectable silymarin is sometimes administered in hospitals for rapid effectiveness.

4. Topical Creams and Ointments – Due to its antioxidant properties, milk thistle is also used in dermatology, particularly for treating eczema, psoriasis, and acne.

Not only is Silybum marianum effective for liver protection, but it is also beneficial for several other health conditions.

As mentioned earlier, milk thistle is most commonly used for liver-related conditions. For instance, it is prescribed for:

Hepatitis – Because it reduces liver inflammation and improves enzyme levels.

Cirrhosis – Since it slows down the progression of liver scarring caused by alcohol or viral infections.

Fatty Liver Disease – As it supports fat metabolism in the liver and reduces oxidative stress [2, 123-148].

In addition to treating liver diseases, milk thistle is widely used in detoxification therapies. This is because it helps eliminate toxins from the body, including alcohol, environmental pollutants, and even chemotherapy drugs. Therefore, it is particularly useful for individuals who have been exposed to harmful substances.

Interestingly, recent studies suggest that silymarin may help regulate blood sugar levels. On the one hand, it improves insulin sensitivity, which is essential for managing type 2 diabetes. On the other hand, it reduces inflammation and oxidative stress, both of which are linked to diabetes complications. Nevertheless, further research is needed to confirm its full potential in diabetes treatment.

Moreover, some researchers have explored the potential of silymarin in cancer treatment. Although more studies are required, preliminary findings suggest that it may inhibit tumor growth and enhance the effects of chemotherapy while reducing its side effects. Consequently, milk thistle is being investigated as a complementary therapy for cancer patients.

In addition to its other benefits, milk thistle may also support cardiovascular health. On the one hand, it has been found to lower bad cholesterol (LDL) levels, reducing the risk of heart disease. On the other hand, it helps prevent inflammation in blood vessels, which plays a role in conditions such as hypertension and atherosclerosis.

**Conclusion**. In conclusion, Silybum marianum Gaertn. L. is a valuable medicinal plant with a wide range of health benefits. Not only does it serve as a powerful liver protector, but it also possesses antioxidant, anti-inflammatory, and immune-boosting properties. Moreover, its applications extend beyond hepatology, as it is also being researched for its potential benefits in diabetes, cancer treatment, and cardiovascular health.

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