

## MEDICAL USE OF BIOLOGICALLY ACTIVE SUBSTANCES FROM SUNFLOWER

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### **Annotation:**

The chemical composition of the plant is complex and varied. In addition to carbohydrates, proteins and oils, it was found to contain biologically active substances, such as A, E and K, from vitamins that are beneficial and important for the human body. It was found that these biologically active substances are used in the treatment of several diseases caused by; conjunctivitis, anemia, ischemic heart attack.

**Keywords:** spinach, Essential Oil, various glycosides, alkaloids, additives, minerals, biologically active substance, metabolism.

### **Introduction**

One of the main factors that determine the normal vital activity of the body, its performance and health is nutrition. Research in the late 19th and early 20th centuries laid the foundation for modern ideas about human nutrient needs. The main important nutrients: amino acids, fatty acids, vitamins and minerals were found.

Until now, the theory of balanced nutrition, developed at the beginning of the 20th century, based on a proportional approach to the evaluation of food and diet, remains important. The main content of this theory is that nutrition is a process of maintaining and balancing the chemical composition of the body. Rational balanced nutrition implies optimal proportions of various food components, which ensures a normal level of vital activity with optimal consumption of plastic energy and regulatory substances in the body.

To maintain the adaptive potential, a number of macro and micro components of food products (proteins, vitamins, small biologically active compounds) are necessary, which should be provided by nutrition. Long-term exclusion of one of the main components (proteins, lipids or carbohydrates) from the diet is unacceptable.

The solution to the problem of nutritional rationalization led to the production of drugs that allow to compensate for the lack of certain nutrients, as well as have a weak regulatory effect on various organs and systems of the body. These drugs are called biologically active supplements. The use of food additives is justified for the following purposes:

- rationalization of nutrition for each specific person, taking into account his physiological needs and energy consumption;
- reducing the calorie content of the diet;
- increasing non-specific resistance of the organism;
- directed change in metabolism - attachment and release of toxic and foreign substances to the body;
- increase the body's immune defense;
- normalization of intestinal microflora.

Animal studies have shown that the granular form of dried spinach extracts is of particular importance in preventing diseases such as the development of osteoporosis and bone fractures in oophorectomy rats - [1, p.698].

Basically, biologically active supplements are used by healthy people, in rare cases - before illness, they can also be used in case of illness, but only as an addition to the main therapy. Biologically active substances are formed as a result of continuous biochemical changes in plant cells. They undergo various changes at certain times and conditions. As a result, they turn into other compounds, participate in the synthesis of complex molecular substances, or release energy from themselves and break down into simple compounds. Experimental studies revealed the anticonvulsant properties of spinach leaf extracts- [3, p.190]. Rich in vitamins and biologically active substances, the composition of spinach is called neuro-food-awareness food.[4, 108p ].

It was found that sunflower extracts increase the sensitivity of tumor cells to harmful radiation exposure. Randomized clinical studies have shown that eating sunflower pistachios, which contain thylakoids, leads to faster satiety with food - [6, p.477].

### **The Purpose of the Study**

The purpose of this work is to enrich the nutritional composition with biologically active substances for an organism infected with viral hepatitis, to study the biologically active substances contained in medicinal spinach, and to give scientifically based recommendations on the development of mineral-rich nutritional composition.

Today, there are many drugs for the pharmacological correction of various liver diseases, depending on the etiological factors, pathogenesis and clinical presentation. Some of them can cause various complications and allergic reactions, which limits their use. In recent times, medical practice has been rapidly developing the trend of enriching food products with biologically active substances and their complexes as biologically active additives or food products used in medical and preventive nutrition. Such biologically active substances with a hepatotropic effect include amino acids and their derivatives (leucine, isoleucine, valine, arginine, etc.); peptides; vitamins (ascorbic acid,  $\alpha$ -tocopherol,  $\alpha$ -lipoic acid, etc.); glycosides and other antioxidants; phospholipids; oligosaccharides; nucleic acids; macro and microelements (selenium, zinc, etc.); organic acids are included.

Such compounds are light, widely used in the treatment of diseases of the heart, digestion, nervous system, gastrointestinal tract, liver, respiratory tract, substance and other corrective treatment.

The **common sunflower (*Helianthus annuus*)** is a species of large annual forb of the genus *Helianthus*. It is commonly grown as a crop for its edible oily seeds. Apart from cooking oil production, it is also used as livestock forage (as a meal or a silage plant), as bird food, in some industrial applications, and as an ornamental in domestic gardens. Wild *H. annuus* is a widely branched annual plant with many flower heads. The domestic sunflower, however, often possesses only a single large inflorescence (flower head) atop an unbranched stem.

*Helianthus annuus* (common sunflower) belong to the dicotyledonous category, distinguishing them from monocots. As dicots, sunflowers possess embryos with two veins, known as cotyledons, a characteristic feature that sets them apart. The veins in their leaves exhibit a net-like pattern, in contrast to monocots, which typically display parallel leaf veins.

Today, there are the following methods of extracting biologically active substances from medicinal plants:

- Chemical extraction
- Combined or enzymatic extraction
- Microbiological isolation

### Results of the Research:

The results of the experiments show that if biologically active substances, especially medicinal substances obtained from the sunflower root, are added to the diet of the infected organism, it can be seen that there are some positive changes.

#### Biologically active substances in sunflower

Nº	Biologically active substances	100 gr
1	Magnesium	82mg
2	Calcium	106 mg
3	Potassium	774 mg
4	Phosphorus	83 mg
5	Iron	13,5 mg
6	Sodium	24 mg
7	Kholin	2 mg
8	Vitamin A	750mkg
9	Vitamin E	2,5 mg
10	Vitamin K	483 mkg

Sunflower oil mainly consists of acids, the main part of which are linoleic, oleic and palmitic. It also contains lecithin, carotenoids, tocopherols, phytosterols and vitamins E and K. 1

Vitamins 100 gr. daily rate of sunflower oil:

E - 205%;

K - 7%.

The calorie content of sunflower oil is 884 kcal per 100 g.

Benefits of sunflower oil:

The beneficial properties of sunflower oil improve heart health, increase energy, boost immunity and improve skin health. The oil retains some of the beneficial properties of sunflower seeds. Sunflower oil helps prevent rheumatoid arthritis. This prevents its development and reduces symptoms.

Sunflower seeds contain tryptophan, which relieves arthritis pain.

Sunflower oil is the richest source of vitamin E and is rich in polyunsaturated and polyunsaturated fats and low in saturated fat. The product helps prevent cardiovascular diseases and reduce the risk of heart attack. In addition, sunflower oil contains lecithin, which reduces the amount of cholesterol in the body. Choline, phenolic acid, polyunsaturated and polyunsaturated fats in sunflower oil reduce atherosclerosis and high blood pressure.

Sunflower oil has mild laxative properties that help prevent constipation. Eating it in small amounts on an empty stomach helps to normalize digestion and get rid of intestinal problems. Sunflower oil is

used for skin redness and inflammation, eczema, acne breakouts, and UV protection with a source of nutrients needed to moisturize and maintain healthy skin.

Current experiments show that the enrichment of the food composition with biologically active substances will restore the cells of pests, increase immunity and strength for the body. Biologically active substances obtained from plants have a much higher activity than biologically active substances obtained by synthetic methods, and these substances have the characteristics of good absorption and quick effect in the living organism. In particular, flavonoids obtained from plants reduce the permeability and fragility of blood vessels in liver cells. Flavanoids of some plants have laxative and diuretic properties.

Preparations of pure flavonoids and their sum, as well as medicinal preparations made from plants and products containing flavonoids, for the treatment of vitamin P deficiency and vascular permeability disorders and other diseases, blood pressure lowering, bile and diuretic It is used as a cardiogenic sedative, anti-inflammatory and anti-cancer.

### **Summary:**

There are 2 main features of biologically active substances obtained from plants:

1. Natural clean product
2. It is a cure for several diseases.

Currently, biologically active substances obtained from plants perform several functions in the body:

- It helps the body to fully develop
- Accelerates the synthesis of substances necessary for the body
- Controls metabolism
- Functions as immunity
- It has healing properties

Based on the results of the research, active substances obtained from plants, which are natural products, have a positive effect on the diseased organism when enriching food with biologically active substances to eliminate changes in hepatites. Based on these substances, the technology of supplements useful for hepatitis patients has been developed. In this work, technological recommendations are given to increase efficiency to a safe level. The main goal is to treat and prevent hepatitis in a natural way and without any harm to the body.

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