

UDK: 615.89:615.322

**PUMPKIN SEEDS AS A NATURAL REMEDY: THEIR ROLE IN FOLK
MEDICINE**

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Abstract: Cucurbita pepo seed extract is a bioactive natural compound obtained from the seeds of the Cucurbita pepo plant. This extract is characterized by its rich nutritional profile, encompassing a wide range of vitamins, minerals, essential fatty acids, and other bioactive molecules with potential health benefits. The extract has been studied for its role in promoting prostate health and exhibiting significant antioxidant and anti-inflammatory properties. While pumpkin, a fall-harvested melon crop, is well-known for its positive effects on health, its seeds are even more beneficial, although not all are aware of these advantages. Pumpkin seeds have been associated with maintaining healthy and radiant skin, and dietary intake of these seeds has been linked to a reduced risk of various cancers, including those of the stomach, breast, lung, prostate, and colon. Notably, the lignans present in pumpkin seeds are thought to contribute significantly to the prevention of breast cancer. Epidemiological studies have shown that higher lignan consumption is correlated with a lower incidence of cancer.

Keywords: Cucurbita pepo, antioxidant, omega-3, omega-6, prostate, diabetes.

The Cucurbitaceae family (Cucurbitaceae Juss.) is distributed in almost all regions of the Earth and includes 800 species. There are 18 naturally growing species of this family in the flora of Uzbekistan. There are about 900 varieties of pumpkin, of which 400 varieties are edible. Pumpkin (Cucurbita L.) is an annual herbaceous plant of economic importance, growing hanging or lying down with the help of stalks, with a coarse, hairy, jagged stem, reaching a length of 4–6 m. Not only the pumpkin itself, but also its seeds are considered beneficial for health.

Pumpkin seeds are very nutritious and beneficial for the body. Pumpkin seeds, known as "pepita" in North America, are very nutritious and beneficial for the body. They are extracted from the pumpkin and are among the edible parts. These seeds are covered with a fiber-rich outer shell, which is rich in antioxidants and very beneficial for the body. The main components that provide health benefits include omega-3 and omega-6 fatty acids, fiber, antioxidants, vitamins and minerals [1, 2, 22, 23]. Pumpkin seeds are rich in healthy fats, magnesium, and zinc, which promote heart and prostate health and protect against some types of cancer. They are also rich in manganese and vitamin K, which help with wound healing, and zinc, which boosts immunity.

Pumpkin seeds are rich in antioxidants, which reduce inflammation and protect cells from free radicals. They help maintain healthy, radiant skin. A diet rich in pumpkin seeds has been linked to a reduced risk of stomach, breast, lung, prostate, and colon cancers. The

lignans in pumpkin seeds may play an important role in preventing breast cancer. Studies have shown that people who consume more lignans have a lower risk of cancer. Pumpkin seeds may help with problems like prostate enlargement and bladder overactivity. They have a mild flavor and a nutty, nutty texture, and can be eaten raw or roasted.[3, 25, 26].

Pumpkin seeds are round and flat, with a green outer shell. Some people consider these seeds to be garbage and throw them away, but in fact they are very useful - they can be eaten both raw and cooked (roasted). Nowadays, they are sold as a health food in a sprouted or roasted form.

These seeds are extracted from the pumpkin fruit of the Cucurbita genus. Pumpkin seeds are a real source of nutrition and are rich in the following components:

- Sterols
- Fatty acids
- Tocopherols
- Selenium
- Carotenoids
- Magnesium salts
- Cucurbitin
- Phytosterols
- Amino acids
- β -tocopherol
- Squalene
- Phytoestrogens

Therefore, they are considered phenolic compounds or secondary metabolites – with antioxidant and nutraceutical properties.[29,30,31].They are easy to incorporate into your daily diet. They can be eaten as a snack, roasted with spices, or added to smoothies.

Pumpkin has been used as a functional food and medicine throughout history. In countries such as Bulgaria, Turkey, China, Ukraine, Argentina, Mexico, India and Brazil, pumpkin has been used as a medicine. Today, it is still used to treat enlarged prostate glands. Pumpkin seeds are also known to be diuretic and anthelmintic. They treat intestinal worms, motion sickness, nausea, impotence, swollen prostate and urination. These seeds are also useful in treating urinary tract infections. In children, these seeds have been proven to treat irritable bladder and bedwetting in children. Including pumpkin seeds in the daily diet has proven to be very beneficial, especially for those suffering from diabetes and certain cancers. 8-12 According to studies conducted by Gossel-E Williams (2008), extracts of these seeds are believed to increase uterine weight, mammary glands, bone density and even play an important role in preventing hyperlipidemia. Since it contains immunity, zin improves fertility in men and pregnancy, which leads to healthy growth of the child, they are rich sources of palmitic, stearic, oleic and linoleic acids[4, 27, 28].

Potential health benefits of pumpkin seeds- Prostate health.

Several studies show that pumpkin seed extract may help support prostate health. Plant sterols, such as beta-sitosterol, which are abundant in pumpkin seeds, may inhibit prostate

enlargement. The antioxidants in pumpkin seeds also reduce inflammation and prevent prostate growth.

- Pumpkin seed oil and extract relax the smooth muscles of the bladder. This can relieve excessive bladder urgency and frequency.
- Pumpkin seed extract powder improved bladder function by reducing post-void residual volume, suggesting that it may have a direct effect on the bladder muscles to support complete voiding.
- Pumpkin seed compounds such as carotenoids, tocopherols, and zinc have been shown to have antioxidant and anti-inflammatory effects in vitro. This may reduce systemic inflammation. Pumpkin seed extract has high antioxidant properties and enhances antioxidant defenses. This may reduce oxidative damage associated with chronic disease [5, 9,10,11].

Physiochemical properties are the properties of a substance that are determined without changing its chemical structure and have a beneficial effect on health.

According to research, the composition of pumpkin seeds is as follows:

- Oil quantity: 41.59%
- Protein content: 25.4%
- Humidity: 5.2%
- Coarse fibers: 5.34%
- Ash (ash): 2.49%
- Carbohydrates: 25.19%

The composition of the main substances (fatty acids, tocopherols, sterols and phytoestrogens) in different varieties is the same. There are also proteins, minerals and estrogenic properties.

Omega fatty acids are polyunsaturated fatty acids, and pumpkin seeds are rich in omega-3 and omega-6 fatty acids.

Omega-3 fatty acids:

- Reduces depression and anxiety
- Helps treat mental illness
- Improves eye health
- Supports brain development during pregnancy and early life
- Prevents heart disease
- Reduces asthma and ADD/ADHD symptoms in children
- Helps with metabolic disorders
- Fights inflammation
- Helps with autoimmune diseases
- May prevent Alzheimer's disease
- Reduces fatty liver
- Supports bone and joint health
- Relieves menstrual pain
- Improves sleep

- Good for the skin

Omega-6 fatty acids:

- Essential for brain function and overall growth
- Supports skin and hair growth
- Maintains bone health
- Improves reproductive system function

Known as a powerhouse of nutrients, pumpkin seeds offer a wide range of health benefits for our bodies. They have various positive properties, from lowering blood sugar levels to reducing the risk of certain cancers. They are rich in omega fatty acids and minerals such as zinc, potassium, magnesium, etc. They also contain phytoestrogens and have estrogen-like properties. [6, 12, 13, 14, 30, 31].

Anti-diabetic effects. Diabetes occurs when blood sugar levels are too high. There are two types of

1. Insulin-dependent diabetes (type I)– no or very little insulin production.
2. Non-insulin-dependent diabetes (type II)– cells do not recognize the effects of insulin.

In both cases, blood glucose levels increase and cause negative health effects.

Here, insulin production is low or non-existent, and in non-insulin-dependent diabetes, either the production is zero or the insulin is rejected by the cells, as a result of which glycogen stores break down, producing glucose and adversely affecting health. In both cases, the blood sugar level is high. Due to the increase in glucose levels, the body faces many problems. Pumpkin seeds reduce the blood sugar level in the body. They contain high amounts of magnesium, which helps in controlling blood sugar levels. Thus, pumpkin seeds help in preventing diabetes and thus reduce the risk of developing diabetes. Therefore, including them in the diet is very beneficial for those suffering from diabetes. [7,15, 16, 17].

They are known to have beneficial effects on diabetes due to their high magnesium content. Magnesium-rich diets have been associated with a 33% reduction in the incidence of T2D in men and a 34% reduction in women in observational studies of over 127,000 adults.

Pumpkin seeds are a natural source of tryptophan. Tryptophan is an amino acid that promotes sleep in the body. Studies have shown that consuming 1 gram of tryptophan daily improves sleep quality.

In addition:

- Pumpkin seeds are also rich in magnesium.
- Magnesium levels directly affect sleep quality - that is, if there is enough magnesium in the body, a person sleeps well.

Pumpkin seeds:

- Vitamins and minerals very rich in.
- Low in sodium, but it is rich in potassium - which is good for the cardiovascular system.

Phenyl hydroxyl group Contains - this substance stops the oxidation of harmful radicals.[21, 22, 23, 24, 25, 26, 27].

Application:

- Seed oil is used in cooking (baking).
- It is also used in the form of flour (powder).
- The oil-containing ingredients can be consumed in capsule form — especially for those who cannot consume the seeds.
- It is also used in cosmetics - beneficial for healthy skin and hair.

Conclusion

Based on these studies, it can be concluded that pumpkin seeds are a real powerhouse of nutrients. They are distinguished by the following aspects:

- Very good for health
- Pharmaceutical and nutraceutical products used as
- Antioxidants, rich in vitamins, minerals, proteins, omega fatty acids and many other beneficial substances

Main benefits:

- Reduces inflammation, protects the body from harmful diseases
- Improves eye health
- Protein and unsaturated fats rich in
- Iron, calcium, vitamin B2, folate, beta-carotene there is
- Omega-6 and omega-3 contains fatty acids
- Sterols, squalene and tocopherols good for health

They are:

- Balances blood sugar levels
- Overweight (helps with obesity)
- Bladder problems useful for those who

Healthy food- especially for those suffering from diabetes, hypertension and obesity - pumpkin seeds are an ideal choice.

General benefits: Antidiabetic, anticancer, anti-depression and anxiety, heart-healthy, antioxidant, beneficial for skin and eye health, treats prostate cancer and urinary tract problems, improves sleep, boosts immunity, and is a natural beauty aid for skin and hair. However, more scientific evidence is needed to confirm the ancient beliefs in folk medicine.

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