

Medicinal properties of “Péganum hármala” plant

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Abstract: In the article, a thousand ears ago, the legendary scientist and physician Abu Ali ibn Sina (known as Avicenna in Europe) mentioned the beneficial aspects of harmala plant for human health in his "Canon of Medical Sciences". This plant is widely used in folk medicine. Frankincense, known as kharmal in Arabs, garmala or adraspan in Russians, was one of the important elements in many medicinal elixirs of medieval healers. Isiriq grows as a weed in sandy, stony and sandy areas in the desert regions of Bukhara region. It grows a lot around old fences and farms located in the desert and hilly regions of Uzbekistan. Frankincense is a medicinally useful plant. From the point of view of animal husbandry (in some regions it occupies large areas) it is a weed. Peganum harmala is a perennial plant, 40-70 cm tall and 1 meter in diameter. The leaf is simple, divided into 4-5 pieces, and has a gray-green color. The flowers are white and are located singly on the branches. The fruit is spherical and three-lobed. It blooms in May-June and ripens in autumn. Key words: harmala plant, human health, Abu Ali Ibn Sina, folk medicine, Bukhara desert.

1 Introduction

To fully understand the secrets of nature, to open its magical treasure, only one thing is needed - high knowledge. Our young people, who are reaching the advanced heights of science, need to become fully mature, advanced and highly educated people in order to open this treasure and use it. The contribution of biological science to the development of such people is great. It is necessary to familiarize young people with the world of plants of our country, their benefits, harms, medicinal value and other benefits. It is necessary to constantly study the nature of our republic, its plants; it is necessary to find new types of plants that are not et used in the national economy. In the successful implementation of these activities, it is necessary to involve young naturalists widely. I. V. Addressing the youth in his article "Our Urgent Tasks", Michurin said: "In order to bring the best plants from nature to collective farm and state farm fields, it is necessary to find new plants from forests, mountains, deserts and swamps." The flora of Uzbekistan is very diverse. They are spread from the foothills of the desert to the peaks of the mountains. Lenin, until now, only a small part of these plants is used in the national economy. There are still a lot of drugs whose life has not been fully studied and identified.

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2 Material and methodology

Uzbekistan is a country rich in plants, more than four thousand (4148) species are recorded in the "Flora of Uzbekistan" on the 6th floor. These plants, which are considered a rich treasure of our republic, are widely distributed from the desert region to the pasture region. Therefore, it is very difficult to describe them in a short word. Mature botanist of Uzbekistan, academician Q. 3. Zakirov, as a result of many ears of study and examination of the vegetation of the lands from the beginning of the Zarafshan mountain to its lower foot, showed that these lands can be divided into the following four regions - desert, hill, mountain and pasture, and said that these terms can be applied to all of Uzbekistan and even Central Asia. For biologists, teachers and students, all naturalists, these terms can be considered understandable and convenient, because these terms have been created by the people for many ears. Calling in the vernacular, explaining in the vernacular makes it possible for them to fully, accurately and easily understand what is being said [1-4].

The desert occupies a large area in our republic. This includes sandy and gray soils in Bukhara, Jizzakh, Samarkand, Syrdarya, Kashkadarya, Surkhandarya regions, Ustyurt plains of Karakalpakstan. In the deserts of this region, there are many medicinal plants that are widely used in folk medicine. One of them is "Incense".

Péganum hármala is the primary remedy against the evil eye, especially for children. When a newborn appears in the house, before bringing him into the room, the entire room is fumigated with sparkle smoke and a bunch of grass is hung on the right side of the door frame inside the room and placed under the bedding in the cradle. Péganum hármala seeds are sewn into a fabric bag called a tumor and worn on the body.

Nowadays in Uzbekistan you can often see women with a steaming bowl walking through bazaars and other crowded places. The tart smell of burning sparkle while reading prayers is especially popular during flu epidemics. It is believed that prayer enhances the effect of Péganum hármala. You have to pay at least some money for the cleansing ritual.

During fumigation, you can put your hands under the smoke, fumigate the inside of your hat, it's good if the smoke envelops your entire body and gets under your clothes. Traders at the bazaar fumigate their stalls with sparkle, believing that it brings good luck in trade and protects against the evil eye.

The smoke of the burned grass is used to fumigate the room where infectious patients lie, and also to treat headaches. Traditional medicine recommends eating seven seeds from the evil eye.

Péganum hármala is an ancient folk remedy for rheumatism, scabies, colds, malaria, neurasthenia, seizures and as a sleeping pill, for infections of the urinary tract and stomach, and is also used as a laxative for constipation and intestinal atony of various origins. In addition, for problems with the menstrual cycle, to stimulate sexual activity and for nervous disorders, especially Parkinson's disease. Péganum hármala is used for hair loss, hemorrhoids and to treat wounds. Herbal baths are taken for articular rheumatism and other joint diseases. Péganum hármala seeds are used as a seasoning.

Infusion of Péganum hármala herb successfully treats scabies in pets. Péganum hármala has an insecticidal effect; positive results of using preparations from it in the fight against pests of agricultural plants are known.

The use of spark requires caution because the plant is poisonous and in large doses can cause breathing problems, nausea, drowsiness, hallucinations, convulsions, salivation, and increased blood pressure.

When burned, the spark fills the house with tart aromatic smoke, protects against infections and has a slight calming effect.

Péganum hármala has helped people for thousands of ears, protecting their health and homes, instilling faith in its wonderful properties, contributing to new spiritual experiences,

and now has found a new life in our amulets, which will not only help protect you from misfortunes, but will also simply create a home comfort and beauty.

In folk medicine, a decoction made from the above-ground part of frankincense is used in the treatment of fever, malaria, seizures, insomnia, colds and other diseases.

3 Result and discussion

Peganum harmala It is a perennial plant from the family of flowering plants, 40-70 cm tall and 1 m in diameter. Frankincense blooms in March. Its stems grow quickly. One bush has up to 60-80 stems. The stem is blue-blue, soft. The leaves are thin, divided into several parts. That's why it looks like a compound leaf. The leaves are ovate along the stem, without bands, 10 cm long. The root is fibrous, dark-brown, and penetrates deep into the soil. Blooms in May. The flowers are large, white, up to 4 cm in diameter. When it blooms, the mulberry ripens. At that time, the inhabitants of the desert, who knew about this, came to the city of mulberry trees. Frankincense fruit ripens in June. The fruit is a round cup. It contains several brown seeds. Frankincense seeds contain alkaloids such as harmaline, harmalol, peganin and garmin, which are used in the treatment of encephalitis (inflammation of the brain). These alkaloids can even replace quinine. In addition, its seeds contain dyes from which red and brown dyes are made. Frankincense has been used in folk medicine since ancient times. The general public, who did not know its biological properties, deified it until recently. Frankincense has been proven to kill various flu germs and clean the room from harmful germs. It is not for nothing that it is said that "incense is a cure for a thousand pains". It is rarely eaten by livestock. The winter eats the dry stem branches after the smell has gone away with the moisture. Frankincense is a picky soil plant, it grows well in soil rich in ammonia. It grows a lot around old fences and farms located in the deserts and hills of our republic. It is a medicinal plant. It is a weed from the point of view of animal husbandry (occupying large areas in some regions).

Frankincense, with its many properties, is a favorite medicinal herb of the peoples of the East. Probably because of this, incense was used as a shield to prevent all disasters and diseases. According to legends, if incense is kept in the house, there will be less disease, because incense repels the sexes. In his day, the belief that frankincense had any power was the result of a lack of understanding of its healing properties. However, scientific medicine has proven that the active substances present in the composition of frankincense destroy the invisible microorganism. Currently, in scientific medicine, germinal colloid extracted from frankincense and alcohol tincture made from plant roots are used in the treatment of Parkinson's disease, seizures, encephalitis, a complication of inflammation of the brain - tremors, and as a sleeping medicine. It is not for nothing that frankincense is sometimes called kharmal, isvant, adrasmon, garmala. His original horse is hazaraspband (Persian for "capable of keeping a thousand horses"). Thousands of years ago, famous Greek physicians Jolenus (Galen) and Diskaridus (Dioscorides) described frankincense in detail and showed its healing properties.

The great physician Abu Ali ibn Sina also used incense in the treatment of a number of diseases.



Fig.1. Frankincense in early spring

First, let's get acquainted with the biological structure of the plant. Frankincense is a perennial plant that grows 30-70 cm. The stem is several, many hairy, spreading around the stem. The white-yellow flowers are borne singly on the stem. The fruit is spherical, multi-seeded. It begins to grow in early spring. (fig. 1)

All parts and seeds of frankincense are rich in alkaloids. It was noted that there are alkaloids in the root of the plant up to 3.3%, in the stem up to 3.57%, in the leaf up to 4.96% and in the seed up to 6.60%. In addition, the seeds contain a large amount of oil.

Oil can be extracted from frankincense seeds by juvoz and other methods. The properties of the oil: opening the barriers in the brain, strengthening the tendons, dispersing the hands in the tendons. Frankincense oil can also be consumed as food.

Medicinal properties of frankincense: it expels bowels, analyzes condensed substances, gives sexual energy to people with cold clients, fattens the body, smoothes urine, sweat, milk and menstruation.

Secrets of using poison ivy in folk medicine. (Table 1).

Table 1. Secrets of using poison ivy in folk medicine.

№	Preparation	Cure
	To prepare frankincense decoction, pour 250 grams of water into a saucepan and add a teaspoon of ground frankincense, boil for 5 minutes over low heat, and infuse for 2 hours, wrapped in a towel. Then it is filtered in cheesecloth and drunk 3-4 times a day before meals, one tablespoon	it is a headache cure
	Light the incense and blow on its smoke 21 times, boil a bunch of incense in a bucket of water, drain it in a gauze, pour it into the bath, pour hot water over it, and lie in the bath until the water cools down.	it is a headache cure
	Boil a pinch of frankincense in 400 ml of water on low heat for 5 minutes. Cotton or cloth soaked in this decoction for 10 days and applied to the affected area	it is a cure for knee and bone pain
	If you burn incense	the air in your room will be cleaned, germs and infections will be reduced
	Frankincense oil is applied to the body	cures back pain
	If the milky juice of incense is soaked in medical cotton and applied to the itchy areas for 10 days.	relieves itching

frankincense seeds, sedana, camphor, pepper, parsley, black cumin, saffron are taken in equal amounts, mixed, and drunk once a day with the addition of honey or sugar	Improves heart function
drink incense mixed with parsley seeds and mint and ginger	Treats constipation
Frankincense contains alkaloids, peganol, peganidin, garmin, harmaline, various oils, additives	garmin calms the nervous system, has been used to treat tremors, an inflammatory complication of the brain, and as a sedative.
Incense juice	It is very effective in cataracts (wash the face with a decoction)

There is probably no need to describe the herb, which is called "a cure for a thousand and one pains" in the vernacular. Our grandfather Abu Ali ibn Sina recommended frankincense as a pain reliever when the knees and bones hurt due to a cold of the nerves. Let me remind you - all parts of frankincense are poisonous, but it can be made edible by adding additional herbs.

1. In case of paralysis, paralysis, paralysis, i.e., one part of the body is not functioning, it is necessary to take a third of its weight from frankincense, make a paste of ginger with ituzum leaves, and put it in the sun repeatedly.

2. Or if you boil 300 grams of frankincense in 2 liters of sweet water, strain the water, and consume 50-70 grams of it, the toxins will be removed from the body and the blood will be purified.

3. Or if you boil 25 grams of dry frankincense in 100 grams of water, strain it and eat it with 75 grams of honey and 50 grams of sesame seeds, you will vomit strongly. This vomiting clears the organs below the chest and the upper part of the body of sticky moisture (phlegm). Repels shortness of breath and wet cough.

4. Or if you boil 300 grams of dry frankincense in 9 liters of grape juice until a quarter of the water remains, it will relieve old headaches and seizures. If she drinks a gram, she will get pregnant.

5. Or mix 100 grams of frankincense, 100 grams of flax seeds with 1.5 kg of honey, and eat 1 spoon of this mixture 3 times a day, if the blood pressure is not high, it will relieve the pain of shortness of breath. If you add 4-5 grams of burnt to this mixture and eat it, it will break down kidney and bladder stones.

6. Or if you mix it with dill oil and rub it on the upper part of the lower back and neck, it will get rid of old sore throat.

7. Or, if mixed with saffron, domestic chicken bile, honey, wine, fennel water and applied to the eye, it heals the eye that has become weak due to excessive swelling.

8. Or if you smell the incense and sprinkle it on the corners of the room and on the floor, all kinds of insects will not enter the house. Some will run away.

9. Or, if the root is mixed with the oil of mountain savsar and stuck in the opening of the back of the genitals, it will open the mouth of the blood vessels and smoothen the flow of the stagnant blood.

10. Or if you boil incense in water and pour that water on weakened organs, it gives them strength. And repels numbness. If it is boiled with sesame oil and consumed continuously, it will ward off all diseases of the liver and lungs.

11. Or if incense is boiled in the sun and dripped into the nose, it will remove redness of the eyes and fever.

12. Or boil the incense in radish water until its power passes to it, then clean the water and pour the same amount of olive oil on it, and boil it on low heat until the water evaporates and the oil itself remains, but you should be careful not to stain the oil. If this oil is dripped into the ear without cooling, it is a cure for ear pain and deafness, as well as ringing in different tones.

13. I remind you once again that it is harmful for people with hot clients to consume incense, it causes headaches and makes hearts restless. If wet fruits, skanjabin and various other things are consumed, these damages will be corrected.

14. The daily amount of incense is from 4.5 to 9 grams.

They investigated the amount of peganine and deoxypeganine in the sum of frankincense alkaloids collected from different regions of Central Asia (table 2). As expected, the amount of alkaloids was found to vary depending on the growth site and growth phase.

Table 2. The sum of frankincense alkaloids

Development phase	Dialed time and place	Total alkaloids %	Paganini % relative to sum	deoxy-Paganini relative to sum %
Fast growth	18.04.2014 (Jizzakh)	1,8	33	2,1
	11.04.2014 15.04.2013	2,17	48	21
	2,2	35		6
	14.04.2013	1,8	-	
Horning	5.05.2013 (Karakalpakstan)	2	34	2,6
	10.05.2013	2,3	41	-
	4.05.2013	3,1	82	3,0
Flowering	25.05.2014 (Жиззах)	1,95	0,9	- 21
	20.05.2014 (Navai)	1,86	1,5	10,0
	30.05.2010 (Oqsoy)	2,82	47,0	
Flowering- beginning of fruiting	4.06.2010 (Oqsoy)	1,74	53,0	7,0
	29.05.2009 (Havai)	1,83	11,0	18,0
Fruit bearing	20.07.2010 (Oqsoy)	0,69	7,3	- 16,0
	4.07.2009 (Navai)	0,86	16,0	

Although the dynamics of the accumulation of alkaloids in frankincense have been studied in other regions of Uzbekistan, the alkaloids of frankincense growing in the desert zones of the Bukhara region have not been studied.

4 Conclusion

Frankincense has been widely used in traditional folk medicine since ancient times. Even now, it is no exaggeration to say that incense is used in every household. Its cure for a thousand different ailments is known and famous among the people. In particular, it is the most reliable traditional method of prevention against infectious diseases. Abu Ali Ibn Sina, also known as Avicenna, was a Persian polymath who made significant contributions to various fields, including medicine. In his medical writings, Ibn Sina documented the medicinal properties of numerous plants, including "Peganum harmala," also known as Syrian Rue or Harmal. Ibn Sina's teachings on Peganum harmala highlight its potential medicinal properties, including anti-inflammatory, analgesic, antibacterial, and possibly psychoactive effects. However, modern scientific validation is necessary to confirm these properties and determine safe and effective uses for this plant in contemporary

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