

Onions and garlic in herbal medicine and homeopathy.
Publication 1: Applications in Traditional Medicine
T.L. Kiseleva, A.V. Nefedova

(Institute of Homeopathy and Naturotherapy of the Federal Scientific Clinical and Experimental Center for Traditional Methods of Diagnostics and Treatment

Ministry of Health of the Russian Federation, Moscow)

Onions and garlic are among the most popular food plants in the world used in herbal medicine. In culture, onions have been known for more than 6 thousand years, the homeland of onions is Central and South-Western Asia - Afghanistan, Iran, from where it came to Egypt and Greece, and then spread throughout Europe, and later around the world [5; 22], Garlic is also a very ancient vegetable culture, and now it is found in the wild in Armenia, India, Arabia [5]. The homeland of garlic is South Asia; perhaps he comes from the Kyrgyz steppes. Garlic has been cultivated for many millennia in all countries [11; 35].

Modern herbal medicine and homeopathy in their arsenal have finished medicines (MP) from raw materials prepared from these food plants, however, the spectrum of action of official drugs is much narrower compared to their use in traditional medicine around the world.

The purpose of the information and analytical study "Onions and garlic in herbal medicine and homeopathy" was a comparative assessment of the spectrum of therapeutic use of onion and common garlic in traditional and modern medical practice, as well as scientific substantiation of the effectiveness and safety of these representatives of the genus *Allium* using the results of modern scientific research ...

To achieve this goal, we made an attempt to solve the following tasks.

1. Analyze and summarize bibliographic data on the application onions and garlic in traditional medicine around the world since ancient times.

2. Analyze and summarize the results of preclinical and clinical studies to prove the efficacy and safety of raw onion and garlic.

3. Analyze and summarize data mining results representatives of the genus *Allium* in chemical and pharmacognostic aspects in order to search for correlations between their chemical composition and pharmacological action.

4. To assess the possibilities of expanding the field of application of raw materials onions and garlic for creating new modern medicines.

This work opens a series of publications devoted to the use of two representatives of the genus *Allium* - *Allium sulfur* L and *Allium sativum* L in herbal medicine and

homeopathy. It is devoted to the first of the research tasks indicated above.

BRIEF DESCRIPTION OF THE OBJECTS OF STUDYThe Alliaceae family (Onions), which includes onions and garlic, includes 30 genera and 650 species, which are distributed on all continents except Australia and Antarctica. The genus *Allium* is the largest in the Alliaceae family. Of about 500 species of the genus onion, about 300 are common in the Caucasus, Kazakhstan, Central Asia and Siberia. Previously, onions belonged to the vast family of liliaceae, which were then subdivided into several small families [11].

Most of the onions are found in torny, steppe or desert regions. The species diversity of onions is widely represented in Central Asia, and in Europe, onion species are grouped mainly around the Mediterranean Sea.

Mass cultivation of onions is carried out in the middle lane of the European hour.

Russia (Yaroslavl, Kostroma, Nizhny Novgorod and other regions); This plant is widely cultivated in the Transcaucasia, less extensive areas are occupied by the culture of various varieties of this species in Siberia and the Far East, where onions were cultivated only in Soviet times. In the north, in the Arctic, onions are cultivated for the sake of green leaves (feathers), which have high anti-scurvy properties [35].

Garlic in Russia is a popular vegetable garden grown almost everywhere [11; 35].

I. ONION

1.1. Botanical description

Bulb onion is a biennial bulbous plant up to 1 m high with a large flattened globular bulb covered with purple, reddish or white thin shells. The bulb consists of succulent scales formed by thickened sheaths of leaves. Succulent scales are attached to the shortened stem from below; at their base are vegetative and generative buds. New bulbs develop from the vegetative buds, thus nesting onions. From the generative buds, flowering arrows up to 1.5 m high develop, which end in an umbrella-shaped inflorescence, consisting of 300-400 small white flowers with greenery, sometimes bearing daughter bulbs - "babies". Leaves are cylindrical, hollow inside, basal. Fruits are almost spherical capsules with black small triangular seeds, from 1 to 6. Blooms in June - August, fruits ripen in August - September [5; 22]. The smell of the bulb is characteristic, the taste is pungent, volatile substances irritate the mucous membranes of the eyes and nose [7].

Onions are a relatively cold-resistant plant, they tolerate frosts down to -7°C , but in the loop phase they can die at $-2-3^{\circ}\text{C}$ [15].



Onion varieties

The collection of the All-Russian Institute of Plant Industry (VIR) includes more than 2000 varieties of onions from 53 countries of the world. A.A. Kazakova divides onion varieties into 3 subspecies: typical (western), southern and eastern. The varieties of each subspecies are characterized by a complex of traits and properties determined by their habitat. On the territory of the former USSR, 60 varieties of onions have been zoned, the most widespread of which were the varieties Bessonovsky local and Strigunovsky local. They were bred through long-term selection in the process of introducing onions into culture and named after the place of their creation (the village of Bessonovka in the Penza region and the village of Striguny in the Belgorod region) [12].

In Siberia, 8 varieties of onion have been zoned: Bessonovsky local, Strigunovsky local, Timiryazevsky, One-year Siberian, Oktyabrsky, Rostovsky local, Voronezh 86, Spassky [12].

One of the main features that underlie the classification of onion varieties is the color of dry scales. On the basis of this trait, 3 large groups of varieties are distinguished: white, purple and yellow. In the process of cultivating onions, mixing takes place: yellow ones are mixed with white varieties, yellow and white ones appear among purple ones. The color is to a certain extent related to the taste of the onion [12].

Depending on the accumulation of essential oil, onion varieties are divided according to taste into spicy, semi-sharp and sweet. Spicy varieties contain a lot of essential oil, dry matter (14-19%) and sugar (6-13%). Sweet varieties belong to the southern subspecies and

are characterized by a low content of volatile essential oil (7 times less than in spicy varieties), dry matter (7-15%) and sugars (3-11%) [12]. The harsh taste suppresses the taste perception of onion sugars. Sharp varieties have thin, juicy scales, they are early ripening, suitable for processing. In Siberia, spicy varieties are cultivated from seedlings to obtain turnip onions. Sweet varieties have a large, juicy sweet onion. These varieties are consumed raw. Sweet salad varieties are more late ripening than spicy ones. In Siberia, they become more bitter, especially in dry weather and high air temperatures [9; 12].

White onions are large and sweet, mainly grown in the south. There are also purple onion varieties. The further north you go, the fewer sweet onions and more spicy ones. The ratio changes in the direction of yellow onions, there are fewer purple varieties, and white ones disappear altogether [9]. There is a relationship between the taste and keeping quality of onion varieties. Spicy varieties are well stored, keeping quality of semi-sharp and semi-sweet varieties is slightly worse, and sweet varieties, as a rule, are unsuitable for long-term storage (they germinate in 1.5-2 months) [9; 12].

1.2. Application in ancient and medieval medicine

In Egypt, onions were revered as a sacred plant. Images of him were found in the Egyptian burial of the 4th dynasty, as well as in the pyramid of the 5th dynasty in Saqqara. Bunches of onions were found even in sarcophagi together with mummies and in the internal cavities of mummies [16; 17].

During the time of Hippocrates (V-VI centuries BC), onions began to be used in medicine, over time, its medicinal properties were revealed more and more. The ability of onions to destroy pathogens was noticed long ago, and Roman legionnaires wore a bag with a bulb or a head of garlic on their chests as a talisman protecting from infectious diseases [16; 17].

The healing properties of onions were also used in the Middle Ages: they are mentioned in the "Canon of Medicine" by Abu Ali ibn Sina, written in 1012-1024. In particular, it was believed that "along with astringent properties, onions have the ability to strongly peel and open." It was known that edible onions are good at helping "against the harm of bad water"; if you throw peeling onions into it, then its bad smell disappears. It was recommended to rub the skin around the areas affected by the "fox" disease with onions, and in combination with salt, to reduce warts with them. Onion juice has been reported to be beneficial for contaminated wounds; with chicken fat, it helps against abrasions on the feet; if you put onion juice in the nose, it "clears the head", in the ear - it helps from heaviness in the head, from ringing and from pus and water in the ears. It was believed that the squeezed juice of edible onions increases the secretion of saliva, helps from "water,

Medieval doctors believed that the bitterness of the edible onion strengthens a weak stomach and stimulates the appetite; double-boiled onions are very nutritious; it induces thirst and is beneficial for jaundice; Fresh onions help a rabid dog bite if the bitten area is soaked in juice, salt and rue [1]. At the same time, it was believed that fresh onion is harmful to people with a hot nature, its abuse leads to headaches and memory impairment [2].

In the work "On the Properties of Herbs" by Odo from Men, written in the 11th century, onions are said to "tame the dysentery inside the painful injections", useful for visual impairment - "clears the eyes from the threatening darkness" [2].

The Spanish physician and philosopher Arnold of Villanova at the end of the 13th - beginning of the 14th century expounded the credo of the Salerno school in poetic form. This text, known as the Salerno Health Code, mentions about 50 useful plants, including onions: "As Galen reports, onions are not useful for choleric people. But for phlegmatic people, onions, he says, are a curative remedy. Best for the stomach; and the complexion is excellent, too, from the bow. Rubbing it in rubbing, you will be able to return to the bald head the beauty that has been lost by it. Attach a bow - it will help with the treatment of dog bites. They rub it with honey and vinegar just before "[2].

At different times and until now, onions have been used and are used as a medicine in almost all traditional medical systems in the world.

1.3. Use in folk and traditional medicine of Russia

In Russia, onions have long been considered an almost universal remedy that protects and "cures" from many diseases, which is reflected in the proverb "Onion - from seven ailments." For medicinal and prophylactic purposes, onions were used even during times of plague, cholera and other epidemics. In the "Russian folk herbalist", published in 1871, a recommendation is given: "During a pestilence or other sticky diseases, it is necessary to hang bundles of bulbs in the rooms, which is why the infection does not penetrate into them, and the air in the rooms will be cleansed" [2].

In traditional medicine in Russia, onions, especially green ones, are still considered a good antiscorbutic agent [5]. According to a number of authors [5; 22], its regular consumption reduces blood cholesterol and inhibits the development of atherosclerosis. In folk medicine, for the treatment of atherosclerosis, a mixture of fresh onion juice is used in equal parts with honey (1 tablespoon 3 times a day); for dropsy and chest pains - fried onions with fresh oil [5; 15; 22].

It is known that one of the folk remedies for fighting insomnia is raw onions, eaten just before going to bed. Fresh onion stimulates appetite, increases the secretion of the digestive glands, intestinal tone, promotes better digestibility of food and rapid bowel movement [5; nine; 17; 41].

Fresh bulbs of various types of onions are also widely used as a home remedy for influenza, for the treatment of colds of the upper respiratory tract (in particular, catarrh, sore throat, rhinitis, inflammation of the mucous membrane) by inhalation of volatile components of grated onion [2; nine]. With this method of treatment, only freshly prepared gruel should be used, because onion phytoncides evaporate after 10-15 minutes [36]. The maximum amount of phytoncides is in the bottom of the bulb, which should be taken into account in order to achieve the best therapeutic effect.

In traditional medicine, a runny nose with flu is treated by putting pieces of cotton wool soaked in fresh onion juice into the nose for 10-15 minutes. Swabs soaked

onion juice, put in the ears to stop the inflammatory process, ear pain and ringing in the ears [2]. For laryngitis and pharyngitis, it is recommended to use grated onion gruel in combination with grated apple and honey.

In case of respiratory diseases, onions help to thin mucus; due to the content of a large amount of phytoncides for bronchopulmonary diseases (cough, bronchitis, whooping cough), onion juice is used in the form of aerosols. To do this, the juice is diluted in distilled water or 0.25% novocaine solution in a ratio of 1: 3. Inhalation is carried out 2 times a day, 10 ml of solution. For these diseases, juice with honey (1: 1) is also used internally, 1 teaspoon 3-4 times a day [22].

In traditional medicine, the outer dry scales of the bulb are used as an antiallergic agent for allergic and vasomotor rhinitis. The peel is crushed and charred without burning on the stove, inhaling the resulting smoke alternately with one or the other nostrils [22].

Alcohol tincture of onion has a diuretic and laxative effect; it is believed that its use promotes the dissolution of sand and small stones [40]. Fresh onion and its tincture stimulate sperm production, increase potency [2; nine]. In case of prostate adenoma in traditional medicine it is recommended to eat one onion in the evening [2].

According to V.P. Tarasenko et al., Onion and tincture from it are indicated for cancer of various localization; they also act as a general tonic [38]. In the literature, we found a recipe for the treatment of cancer with onion of acute varieties: 0.5 l of strained onion juice is mixed with 0.5 l of brandy, infused for a day and taken one tablespoon 3 times a day before meals [14].

Outwardly, onions are used to treat skin diseases. Raw onion gruel is applied to fresh burns to reduce inflammation and prevent blistering. Fresh onion gruel is also applied to the affected areas with frostbite, external tumors. Baked onions with cow oil are used to accelerate the ripening of abscesses and soften corns [15].

Known external use of baked onions for chest pains, dropsy, for the treatment of purulent skin diseases, including boils, and the best effect is provided by poultices of onions cooked in milk. Gruel from grated onion is applied to painful places with injuries and bruises, on wounds that are difficult to heal [7].

In folk medicine, with poor eyesight, it is recommended to use fresh onion juice with honey to lubricate the eyelids [2].

In cosmetology, dry onion scales are used when dyeing hair orange-red [22].

1.4. Application in traditional medicine around the world

In Chinese traditional medicine, from ancient times to the present, onion bulbs have been used as a diaphoretic, stimulating the secretion of digestive juices and a bactericidal agent against the causative agent of dysentery [47].

Indian "Materia medica" [45] cites data that the oil contained in onion bulbs has general stimulating, diuretic and expectorant activity, and fresh bulbs are a "menstrual stimulant." In India, fresh onions are commonly used as a food plant and a spice; it is recommended to combine its use with lemon juice, pepper and salt in order to increase the yield and assimilation of the vitamins it contains [45]. It is recommended to eat fresh onions that have not been cooked or cooked. It is especially valuable for its antiseptic effect on the digestive tract. Fresh bulbs are useful for fever, dropsy, catarrh, and chronic bronchitis; mixed with salt is a good home remedy for colic and scurvy [45].

Shown onion as an antidote for tobacco poisoning. It is recommended to eat different types of onions to soothe coughs; onions mixed with vinegar are good for sore throat. Also, onions cooked with vinegar are used in the treatment of jaundice and dyspepsia, with an enlarged spleen. To relieve attacks of malarial fever, Indian traditional medicine specialists prescribe onions with two or three black peppercorns twice a day [45].

Outwardly raw bulbs are used as a local irritant, baked - as a poultice for slowly healing boils, bruises, wounds, etc., to relieve heat sensitivity; for dysentery and fever, the body is applied to the navel. Onion juice is recommended to be used as a snuff for dizziness, fainting, loss of consciousness, childhood convulsions, headaches, epileptic seizures and hysteria. In order to relieve pain in the ears, warm onion juice is instilled in them. Hot onion poultices are also applied to the soles of the foot for seizures. With visual impairment, the bow is applied to the eyes. Locally, it is used to weaken pain sensitivity with insect bites, scorpions and various skin diseases [45].

Onions are not mentioned in the modern Indian plant pharmacopoeia [48].

In Bulgaria, an infusion of chopped onion in a glass of water, aged overnight, in accordance with the recommendations of traditional medicine, must be drunk daily on an empty stomach for 3-4 days to remove worms. A small head of onion eaten in the evening is considered a remedy for the treatment of hypertension and diseases of the prostate gland [5; 12]. Outwardly, in Bulgarian traditional medicine, onions are used for cosmetic purposes. It is believed that it promotes the growth and strengthening of hair in case of hair loss, the elimination of dandruff. To do this, it is recommended to rub 2-3 tablespoons of fresh onion juice or gruel into the scalp with your fingers 1-2 times a week. For the growth and strengthening of hair, a decoction of onion husks is also used [12].

II. SEEDING GARLIC

2.1. Botanical description

Sowing garlic is a perennial bulbous plant up to 1.5 m high. The bulb is ovoid complex, covered with several dry white or purple films, consists of several (6-10) small (up to 4 cm) bulbs - cloves, which are also covered with dry films and enclosed into a common whitish scaly vagina. The stem is often bent in a ring before flowering in the upper part. Leaves are long, up to 1 m, narrow, flat, vaginal. Flowers are lavender or white, up to 3 mm in length, on long pedicels, an umbrella is collected in an inflorescence, surrounded by a single-leaved falling sheath. Between the pedicels sit numerous small, up to 1 cm long, bulbs - "babies" used for the propagation of garlic. Fruits and seeds rarely develop. The whole plant has a specific garlic smell. The bulbs have a characteristic odor and a pungent taste; volatile substances irritate the mucous membranes of the eyes and nose [7; 22; 40].

Plucked out together with the green part of the bulbs in bunches are suspended in the shade or in dry rooms to dry them before being put into storage [60].



Garlic varieties

The varieties of garlic are divided into three groups: winter crops, non-shooting, and spring, as a rule, non-shooting (Table 1). Shooting varieties are grown in a 2-3-year-old culture, non-shooting varieties - in one-year podzimny or spring. Winter varieties are grown in the fall, with such

calculation so that they can take root before the onset of frost, spring crops - in early spring. Germination of garlic occurs at a temperature of 3-5 ° C; the growing season is 120-140 days. Shooting garlic forms a central arrow with an inflorescence, on which, instead of seeds, airy bulbs (bulbillas) are formed [15; 40].

Table 1

Winter crops		Spring (non-firing)
Shooters	Non-shooting	
Baklanovsky Belorussian Dubkovsky (Antey)	Novosibirsk Saki Broadleaf 220	Aleisky Gafurian Kalinin local
Dungan local Komsomolets Otradnensky Sail Scythian Anniversary mushroom		Moskovsky Sochi 56

In central Russia, winter varieties of garlic are more common. They are early-maturing, winter-hardy, give a good harvest, however, they are less maturing than spring garlic varieties, which ripen later than winter ones, are more susceptible to frost, and give very maturing products [15].

Winter and spring varieties differ in the size of the bulbs and their structure. In winter garlic, the bulbs and chives are usually large and there are 4-8 chives in the bulb, less often up to 12. They are located around the center of the bulb and are approximately the same in size. In spring garlic, the bulbs and, accordingly, the cloves are smaller, the number of cloves can reach 30.

2.2. Application in ancient and medieval medicine

Garlic was used for medicinal purposes even in the Neolithic era (8-3 thousand years BC), as evidenced by the found cuneiform recipe for a medicine containing garlic. The healing properties of garlic are mentioned in the Bible, ancient Indian books, and ancient Roman literature [25].

In ancient Egypt, garlic was added to the food of slaves to improve their performance. According to Herodotus, during the construction of the Cheops pyramid, 1600 talents were spent on garlic, onions and leeks - more than 40 tons of pure silver. The medicinal properties of garlic are described around 1550 BC. in the famous papyrus "Ebers Codex". In China, garlic preparations were known as early as 2600 BC.

In ancient Greece, garlic was called a "stinking rose" and was very fond of

eat it; it was believed to have the ability to maintain courage [2]. Pythagoras called garlic the king of all spices. Hippocrates recommended the use of garlic as a diuretic, stimulating the functions of the digestive system; the Roman physician Dioscorides in the 1st century AD described in detail garlic as a medicine, indicating its medical use - to weaken stomach colic. The outstanding Roman physician Galen (II-III centuries) recommended garlic as a medicine for many ailments, especially highlighting its antitoxic effect in the bites of poisonous animals [25].

In 80 A.D. Nero ordered to give garlic to Roman legionnaires to increase their physical strength and combat effectiveness. The ancient Greeks and Slavs used garlic for snake bites and called it "snake grass" [2]. The Salerno Health Code (early XIV century) notes that garlic "serves as an antidote against the death of a promising poison" [31; 37].

In ancient Iranian-Tajik medicine, it was believed that "garlic dissolves viscous substances, thins the blood, cleanses, opens, dries up fluid in the stomach and joints, has a diuretic, diaphoretic and antidote effect. Helps with joint diseases, sciatica, gout, spleen diseases" [2].

Odo from Mena recommended using garlic and honey topically for dog bites; inside - grated or boiled with vinegar garlic in honey water for helminthic invasions; decoction of garlic - for shortness of breath and cough [2].

Until the second half of the 19th century, when vaccines were introduced into medical practice by L. Pasteur, garlic was the main prophylactic agent used to prevent diseases during epidemics of plague, cholera and other pestilences. Until now, Chinese medicine recommends garlic as a remedy against the plague [2; 31; 37].

2.3 Use in folk and traditional medicine in Russia

In Russia, the "Izbornik of the Grand Duke Svyatoslav Yaroslavovich", compiled in 1073, describes the most useful medicinal herbs - "potions", among the main medicinal plants garlic is mentioned.

In the book "On the Extension of Human Life, or Home Medicine", published in 1848 in St. Petersburg, it is said: "Garlic is considered a universal protective medicine against poison, biting snakes, sticky and infectious diseases, and especially against the plague" [25].

In domestic folk medicine, garlic has been successfully used as a remedy for many diseases: scurvy, urolithiasis, gastrointestinal diseases, insomnia, snake bites, colds, tonsillitis, skin diseases, hypertension, helminthic invasions, purulent wounds, ulcers, edema and many other. Until now, garlic is widely used for acute and chronic catarrh, bronchitis, flu, sore throat, spleen diseases. Garlic is used internally or externally; the juice of garlic must be prepared immediately before use [2; 36].

Inhalation of vapors and spraying of garlic juice are used in the treatment of tuberculosis. Inhalation of aerosol from minced garlic is effective in the treatment of exacerbations of chronic pneumonia, chronic bronchitis, and in combination

with vitamin A, they are used to improve the functional state of the bronchial mucosa in professional dust bronchitis [25]. Studies carried out by domestic scientists in the middle of the last century made it possible to establish that volatile phytoncides of garlic already in the first minutes of experiments kill staphylococci, streptococci, typhoid bacteria, dysentery bacillus, putrefactive bacteria and many other pathogenic microorganisms. tubercle bacillus, and after 30 minutes it dies or undergoes drastic changes [36].

A pronounced positive effect of inhalation procedures for chronic tonsillitis is described: they are carried out with fresh garlic juice diluted with distilled water in a ratio of 1:10 or 1:50. There are reports of positive results of topical application of garlic juice in chronic and atrophic rhinitis. With fungal infections of the external auditory canal and chronic purulent otitis media, garlic gruel is placed in the ear. With age-related hearing loss, 1-2 drops of a mixture of garlic juice with olive oil (in a ratio of 1: 3) are instilled into each ear daily for 15-20 days.

Based on the data of traditional medicine, garlic is widely used in dentistry, in particular in the treatment of cracked lips, stomatitis, pulpitis, chronic periodontitis and complications associated with tooth extraction [25].

In ophthalmology, for a number of chronic inflammatory diseases of the conjunctiva and cornea, garlic juice mixed with other herbal preparations is instilled into the conjunctival sac, which shortens the recovery period [25].

In order to prevent and treat atherosclerosis and hypertension, traditional medicine recommends eating 2-3 cloves of garlic daily (with food) [40].

In gastroenterology, the experience of the traditional use of garlic is also used. With enterobiasis - pinworm infestation - make garlic enemas, which act as an antihelminthic, mainly on round worms, but also on tapeworms [7]. Garlic is used for diarrhea and dysbiosis in children [25]. Locally, fresh gruel from chives is used for *Trichomonas colpitis*, as well as in the complex treatment of a number of skin diseases [5; 7; 37]. Garlic juice is highly active in the treatment of local inflammatory processes caused by bacteria, fungi, and protozoa. Treatment of chronic purulent ulcers with lotions with garlic juice, diluted in a ratio of 1:10 with isotonic sodium chloride solution, promotes the release of ulcers from purulent microflora and enhances tissue regeneration [25]. During the First World War, based on the experience of traditional medicine, garlic juice diluted in water (1: 4) was successfully used as an antiseptic for the treatment of purulent wounds. After careful clinical research in hospitals, a method for treating purulent wounds with garlic and onions was officially recommended (1942-1945) [7; 37].

Undiluted juice is used in traditional medicine to treat warts and calluses. Rubbing in fresh garlic juice is believed to help restore hair growth in cases of baldness [25].

2.4. Application in traditional medicine around the world

In traditional Chinese medicine, garlic is used as a stomachic, antitussive and expectorant, antitoxic, diuretic, and anthelmintic; the bactericidal effect of garlic against the causative agents of typhoid, dysentery, cholera, diphtheria and pneumonia is noted [2; 47]. Until now, in Chinese medicine, garlic is recommended as a prophylactic agent against plague [2]. It is considered the most beneficial to use raw, fresh garlic. The recommended maximum daily dose is no more than one onion; consuming too much garlic can impair vision [47]. Outwardly, garlic is used in China for headaches, calluses, warts, snake and scorpion bites - in the form of an ointment or juice [2].

In Indian traditional medicine, the indications for the use of garlic are very similar to those for the use of ginseng. In terms of efficiency, garlic is equal to this plant [2]. In India, oil, liniment, decoctions and powder of dry garlic bulbs are widely used [45]. It is believed that garlic seed oil has a stimulating effect on the body. The Indian Materia Medica describes the antihelminthic action of garlic, especially against roundworms. It is recommended to use garlic to prevent and alleviate the painful condition with typhus and typhoid fever, as well as with diphtheria, for which you should take about 1 teaspoon (1 drachm) of garlic juice with syrup every 4-6 hours. It is reported that it is useful to take garlic for pneumonia, various bronchial infections, bronchitis. Garlic seed oil is prescribed internally as an antipyretic to prevent recurrence of fever attacks; externally used for rheumatic diseases [45]. In case of pain in the ear, 3 drops of garlic oil obtained from the bulbs are instilled into it [19].

In traditional Indian medicine, it is believed that a mixture of garlic and salt helps with diseases of the nervous system, headaches, hysterical neuroses, coughs of various natures, flatulence [45].

There is a known recipe for a decoction of garlic (Chakradatta): garlic, water and milk in a ratio of 1:10:10 are boiled until the water evaporates, filtered and the resulting milk decoction is given in small portions for hysteria, sciatica, flatulence and diseases of the cardiovascular system [45].

Outwardly, the bulbs are used as an anti-inflammatory agent. The oil has a powerful antiseptic effect. Garlic juice is used in the form of a locally irritating liniment, it is considered especially effective in Ayurveda for childhood convulsions and other nervous and spastic diseases; has a relaxing effect on asthma, general paralysis, facial paralysis; helps with gout, sciatica and various skin conditions including leprosy. Crushed garlic or onion is applied to the chest in the form of a poultice. A compress moistened with mustard or coconut oil, in which garlic was fried, is applied to the affected areas in case of scabies, infection of ulcer wounds with insect larvae [45].

In the modern Indian Herbal Pharmacopoeia [48], garlic is not mentioned.

In Korean traditional medicine, for scabies and ringworm, it is recommended to lubricate the affected area with garlic juice; there is a positive effect of douching in *Trichomonas colpitis* [2].

In Bulgarian folk medicine, a single intake of 2-3 cloves of garlic is considered an effective remedy for gastrointestinal disorders, anorexia, hiccups, stomach and intestinal colic, acute and chronic catarrh, bronchitis, as well as atherosclerosis [5]. It is also recommended to use fried garlic along with onions for panaritium, garlic juice with pork fat - for rubbing into the skin of the neck and chest for whooping cough, garlic gruel - externally for scabies, eczema, hair loss, garlic extract - for enemas [12].

At the end of the 19th - beginning of the 20th centuries, attempts were made to scientifically substantiate the traditional experience of using garlic and onions in medical practice in many countries of the world. In particular, to date, the chemical composition of these types of medicinal and food plants has been studied quite well [3-7; ten; 13; 17; eighteen; twenty; 22; 26; 28; thirty; 32; 33; 36; 39; 42; 43; 45; 47; 49-54; 56; 57; 59; 60], The press also contains information on the results of studying the mechanisms of action of biologically active substances (BAS), raw materials and preparations of onion and garlic [14; eighteen; 21; 23-25; 27; 29; 31; 32; 34; 36; 37; 39; 44-46; 52; 54; 55; 58]. Our next publications will be devoted to these questions. In the same issue of the journal *Traditional Medicine*, we present publication 2: *Onions and Garlic in Herbal Medicine and Homeopathy. The chemical composition of producing plants and raw materials* "(A.V. Nefedova, T.L. Kiseleva). In the next issue, publication 3 is planned: *"Onions and garlic in herbal medicine and homeopathy, Some results of studying the mechanisms of action of biologically active substances, raw materials and phytopharmaceuticals"* and publication 4: *"Onions and garlic in herbal medicine and homeopathy. Application in homeopathy"*.

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