

Research Article

The Effect of Onion Juice on Strengthening Hair and Preventing Hair Loss

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Abstract

Onions are probably one of the most common kitchen ingredients that we use to flavor our food. One home remedy that many people may not have heard of is onion juice. It may seem strange, but onion juice can be a home remedy for hair loss. Hair loss is very common and can also cause local discomfort. Hair loss is a common complaint in dermatological patients and a condition that can cause significant psychological and social anxiety. Hair loss is often treated with topical minoxidil and systemic medications such as finasteride. However, patients often prefer alternative treatment options with fewer potential side effects. In this study, we intend to discuss one of the treatments related to hair loss caused by androgenetic alopecia and alopecia areata in this chapter.

Keywords: herbaceous plant; bulbous plant; crop species; leaves; inflorescence; peduncles; perianth; stamens; epidermal cells; mesophyll cells; calcium oxalate crystals

Introduction

Hair loss is a common skin complaint and a condition that can cause significant psychosocial impact, distress and reduced quality of life in patients with androgenetic alopecia and alopecia areata to name a few. Most patients often ask about natural remedies for hair loss and the results of standard pharmaceuticals are below par. Onion juice is a well-known remedy for hair health, especially for hair loss. It may also restore shine and freshness. Onion juice can also prevent premature graying of hair and treat dandruff. Here is a complete list of the claimed benefits of onion juice for hair care. We intend to review the research conducted to strengthen this theory and use onion extract as a useful solution to strengthen and prevent hair loss.



Figure 1: Onion juice.

Research Background

Onions are one of the oldest vegetables, dating back 3,500 years. The onion plant is the most common plant in Egyptian tomb paintings. An inscription on the Great Pyramid of Cheops shows that it was a plant that the Greeks and Romans had a love-hate relationship with, both praising its healing properties. Alexander the Great also fed it to his troops to give them strength for battle. The ancient Egyptians loved onions, and one species was revered as a goddess and worshipped. The Egyptians ate it raw. Onions were a staple food for the slaves who built the Great Pyramid. Later, the Israelites mourned the loss of the Egyptian onion when they returned to the Promised Land. In the Bible, it is believed that the English name onion is derived from the Roman name Unionem or unio, which refers to its single bulb. The Romans introduced onions to England, and Emperor Nero used them for colds, coughs, and sore throats. It was considered a remedy for aches and pains and a symbol of fertility. The use of onion juice for hair growth has not yet been widely studied.

A study published in the Journal of Dermatology suggests that applying onion juice to the scalp can help some people regrow hair. The study was conducted on people with baldness. Researchers found that after two weeks of applying onion juice twice a day to the scalp, hair regrowth began. Approximately 74 percent of people had some hair growth after 4 weeks, and about 87 percent had hair regrowth after 6 weeks. Both women and men participated in the study, and hair growth was greater among men. Stylecraze.com included this report in its top ten section among hundreds of articles about hair growth and treating severe hair loss, which includes onion hair mask for frizz and stopping hair loss.

A review of the therapeutic effects of garlic and onion in traditional medicine and Islamic narrations

In recent decades, medicinal plants have become of great interest in medical issues, which are the production of many natural substances. Some of them have therapeutic effects, while others are associated with several side effects. There are 16 plants and fruits such as garlic (album) and onion that are mentioned directly and indirectly in the Quran. In addition, the therapeutic properties of these plants are mentioned in Islamic narrations and traditional medicine. According to Islamic narrations about these plants, their extracts are effective in cardiovascular diseases due to the reduction of plasma lipids and homocysteine levels, as well as antihypertensive, antithrombotic and antidiabetic effects. In addition, they act as antibiotics against viruses, antibacterial, fungal and parasitic, anticancer, anti-inflammatory, anti-metabolic diseases and antimicrobials. It plays an important role in enhancing the body's immune system and has a negative effect on it. The effects of chemotherapy such as nausea and vomiting. Scientific evidence shows that the medicinal and biological effects of garlic and onion are due to the high amount of sulphur compounds in these plants. Considering the special nutritional value and therapeutic properties of the two plants garlic and onion in traditional medicine sources and Islamic narrations, as well as extensive studies by medical researchers in Iran and other countries on the medicinal and therapeutic properties of these two plants, the present study was conducted with the aim of investigating the proven medicinal and therapeutic properties of these plants. Texts such as the Holy Quran, the books of Medicine of the Imams (AS), Medicine of Al-Rida (AS), Medicine of Al-Sadiq (AS), and Medicine of the Prophet (PBUH), and other reputable books of traditional medicine and medicinal plants were used, and searches were conducted in databases such as Google scholar, magiran, Ovid, Scopus, ISI, between 1991 and 2020. Traditional medicine's view on the properties of garlic and onions Akhavini mentioned garlic in many cases in his book Hedayat al-Mu'talimin and considered its use useful for increasing appetite and helping pregnant women with eating dirt and phlegmatic diarrhea. He also forbade the use of garlic in diseases such as cataracts, hemorrhoids, excessive menstrual bleeding, and jaundice that are not caused by lightning. He believes that garlic is beneficial for people living in cold regions and also in the winter season because it warms cold mucus and eliminates thick mucus that increases in the body during the winter season.

Razi writes in his book, "The Benefits of Food," about the benefits of consuming onions and garlic: It thins the blood. It prevents colic. It quenches thirst. It relieves chronic pain. It warms the body to a great extent. It does not stay in the body for long and its heat is not like the heat of a fever; rather, it is a pleasant heat, and this is the greatest benefit of garlic. Also, there is no need to eat Musleh for those with phlegmy and cold temperaments. But people with hot temperaments should avoid eating it, especially in hot seasons. If they do not feel like eating it and are forced to eat it due to severe bloating that may have affected their temperament, they should consume it with vinegar or yogurt and drink some ginger and very cool water on it. Abi Basir asked Imam Sadiq about the consumption of garlic and onions. The Imam, while approving the consumption of these two plants as medicine, emphasized that after consuming raw garlic and onions, the consumer should not attend the mosque. The following are four valuable hadiths from the book Tibb al-Rida (AS) and the author, citing the credibility that Allamah Murtaza Askari has given to the hadiths contained in Tibb al-Rida, mentions them among the authentic hadiths. Imam Reza (AS) also refrained from eating garlic, onions, and pickles in some months in his explanation of the precautions for the months. Imam Reza (AS) says in his treatise on the characteristics of the month of Esfand that the winds change in it. It rains a lot, plants and grasses sprout from the ground, water flows in the branches of trees. Eating garlic, bird meat, game, and dried fruits is beneficial. Imam Reza (AS) recommends eating garlic in this month; but in another statement he has said that in the spring one should avoid eating onions, garlic, and pickles; because among the properties of these two fruits is that they lower blood pressure, and it is known that they are not at all competent with blood excitement. Imam Reza (AS) says that those who want to avoid diseases caused by wind (rih) in the body should consume garlic once a week. The second group of hadiths are those that the author is unable to verify from the authentic sources; but they are attributed to the pure Imams (AS). In this regard, in addition to this, garlic has been mentioned in numerous narrations as a cure for seventy diseases. There is also a hadith narrated from Imam Sadiq (AS) that says, "Eat onions, which have many properties. They make the mouth fragrant, strengthen the gums, eliminate fatigue, strengthen the nerves, and eliminate fever." Imam Sadiq (AS) said this in the second century AH, before the benefits of onions were discovered in modern medicine, and today's experiences further demonstrate the truth of their words.

Research Overview

Causes of Hair Loss

Hair loss has many causes, including hereditary, hormonal, nutritional, neurological and psychiatric factors, drug use, internal and skin diseases, surgeries, and pregnancy. Baldness is a type of hair loss in the front and forehead of the head that continues and progresses to the middle of the head. Of course, in some cases, this loss starts from the middle of the head. Baldness is seen in most cases in men and has a hereditary-hormonal cause. This type of hair loss is preventable and treatable, and those involved must patiently endure the long-term treatment. There are various medications and treatment recommendations, which vary depending on the individual. Malnutrition, whether in the form of lack of access to food or in the form of a diet to lose weight, etc., is one of the causes of hair loss; Nutritional deficiency of protein and essential fatty acids. The body cannot produce them and must get them through food. Vitamin and mineral deficiencies are important causes of hair loss that can be prevented and treated. The most common cause of hair loss in women from adolescence to middle age is iron deficiency, which can be overcome by consuming foods containing iron and taking iron pills. Stress, mental pressure, discomfort and depression can be causes of hair loss in people. For example, stress from exams or depression in young people, which is seen a lot today, can be controlled by controlling these emotions, which of course, if done by the person himself, has a more favorable result; because the use of neuroleptics also causes hair loss in some people, this hair loss will be resolved in a short time. Another cause of hair loss can be the use of drugs. Not all drugs cause hair loss, and a specific drug does not cause hair loss in all people. Some people are more sensitive to certain drugs that are related to the body's internal system in deactivating and digesting the drug. Of course, there are drugs that cause hair loss in most people. This group of drugs can include drugs used as chemotherapy. The use of neuroleptics, birth control pills and heart medications cause this condition in many people. Some internal and skin diseases can cause hair loss; For example, a high fever can cause hair loss in people in the future after about 3 months. People who have a local skin disease on the head or extensive skin involvement can have hair loss. These diseases include extensive involvement of the skin, psoriasis, lupus, blistering diseases, etc. Surgery and pregnancy can also cause hair loss. The interval between these diseases and the onset of hair loss is usually 3 months; for example, in women, hair loss begins about 3 months after childbirth, for which there are many causes, including anemia, childbirth stress, high sex hormones during pregnancy, etc. In these people with a specific disease and hair loss, hair loss also resolves with the resolution and treatment of the underlying disease. There are also other causes that cause hair loss in a limited number of people. Hair loss is very common and may have bald spots or complete baldness with gradual thinning. According to the American Academy of Dermatology, about 80 million men and women in the United States have some hair loss. The most common cause of hair loss or hair loss is a hereditary disease called androgenetic alopecia. It can also occur as a side effect of some medications or due to hormonal changes. Alopecia (al-oh-PEE-shah) means hair loss. When a person has a condition called alopecia areata (al-oh-PEE-shah), their hair falls out in circular patches. Hair can fall out on the scalp or anywhere else on the body. Alopecia areata can cause hair loss in many different ways, each with a different name.

Alopecia Areata (Patchy Hair Loss)

Hair Loss in the Entire Scalp (Alopecia Totalis) Baldness in The Hairline

Hair Loss in All Parts of the Body (Alopecia Universalis) General Baldness

Not everyone with Alopecia Areata loses all of their scalp or body hair. This is true for only about 5 percent of patients. In many cases, hair regrowth occurs, but there may be a relapse, and in some cases, hair loss lasts for years. Alopecia Areata is not contagious and is not caused by a neurological problem. What happens is that the immune system attacks the hair follicles, the structures that contain the hair roots, causing hair loss. The disease manifests itself in different ways in otherwise healthy people.

Onion

is an herbaceous and bulbous plant with a height of 25 to 100 cm, which is cultivated as a crop species in most parts of the world. The leaves are 6 to 12, 60 cm long and 12 mm wide, linear, broad, navicular, and have a sheath that covers about half of the stem. The inflorescence is about 25 cm long, with a slit and beak. The inflorescence is 2.5 to 5 cm in diameter, usually with a few flowers that often fall in the form of buds and a large number of tubers. The peduncles are 10 to 20 mm long and unequal to each other. The perianth is cup-shaped, the perianth segments are 3 to 5 mm long and are white-green, pink, rarely white or purple, smooth. The outer segments are lanceolate, pointed, and the inner segments are lanceolate-ovate. The stamens are located inside the perianth. The stamen is 6 to 8 mm long, simple, the 3 inner stamens have a wide and elongated expansion at the base.

Medicinal Organ

The onion, along with the underground stem of the plant, constitutes its medicinal part. This onion consists of several small, wide bulbs called scallions.

Microscopic Properties

Garlic bulbs consist of bulbs that have a shell around epidermal cells that surround mesophyll cells without chloroplasts and a layer of lower epidermal cells. The surrounding dry shell has 2 to 3 layers of cuboidal cells with angular walls. These cells contain many rhomboid cells of calcium oxalate crystals. The lower epidermis has cuboidal cells that are much smaller than the upper epidermis.

Distribution range

It is cultivated in most parts of the world, especially Asia. In Iran, it is planted in large quantities in the northern parts and in the Caspian Sea basin.

Ingredients

Garlic contains sulphur compounds and fructosans. Sulphur compounds are derived from an amino acid called alliin. This amino acid is produced by an enzyme called alliinase when garlic is crushed. Alliin itself is an unstable compound that, depending on environmental conditions and the type of processing performed, produces other derivatives.

Medicinal properties

Onion has extensive antibacterial and antifungal properties, which have been attributed to allicin. Many researchers attribute the effect of lowering blood lipids to the oxidizing power of sulphur compounds in garlic. The aforementioned compounds oxidize the sulphur groups of lipid-synthesizing enzymes, thereby reducing and preventing the body from synthesizing lipids. Garlic and onions cause a significant increase in fibrinolytic activity. Stimulate vasodilation. Hence, the antihypertensive effect may be due to this. Garlic exerts its antidiabetic effect by increasing pancreatic insulin secretion and also by releasing more bound insulin. Compounds such as allicin and allyl propyl disulfide are responsible for this effect.

Onion Benefits

Onions are nutrient-dense, meaning they are low in calories but high in vitamins and minerals. A medium onion has just 44 calories but provides a significant number of vitamins, minerals and fiber. This vegetable is especially rich in vitamin C, a nutrient involved in regulating immune health, collagen production, tissue repair and iron absorption. Vitamin C also acts as a powerful antioxidant in your body, protecting your cells from damage caused by unstable molecules called free radicals. Onions are also rich in B vitamins, including folate (B9) and pyridoxine (B6), which play important roles in metabolism, red blood cell production and nerve function. Finally, they are a good source of potassium, a mineral that many people are deficient in. In fact, the average American's potassium intake is about half the recommended daily allowance. Normal cell function, fluid balance, nerve transmission, kidney function and muscle contraction all require potassium.

- Products available on the market
- Al-Yalum-S tablets made by Dineh Company
- Alicom tablets made by Niak Company
- Alicom tablets made by Kowsar Pharmaceutical Company

Among the extracts produced by In Masoya Pharmaceutical Company are hydroglycolic and hydroalcoholic extracts of garlic and onion. Raw onions are very low in calories, with only 40 calories per 3.5 ounces (100 grams). In terms of fresh weight, they are 89 water, 9 carbohydrates, and 17 fibers, with small amounts of protein and fat. The main nutrients in 3.5 ounces (100 grams) of raw onions are

Table 1. Results after four weeks of treatment with crude onion juice

Sex	No. of patients	Non-responders	%	Responders	%
Male	16	4	25 %	12	75 %
Female	7	2	28.6%	5	71 %
Total	23	6	26 %	17	73.9%

Table 2. Results after six weeks of treatment with crude onion juice

Sex	No. of patients	Non-responders	%	Responders	%
Male	16	1	6.3%	15	93.7%
Female	7	2	28.6%	5	71.4%
Total	23	3	13 %	20	86.9%

Table 3. Results at eight weeks of treatment with crude onion juice

Sex	No. of patients	Non-responders	%	Responders	%
Male	16	1	6.3%	15	93.7%
Female	7	2	28.6%	5	71.4%
Total	23	3	13 %	20	86.9%

- **Calories:** 40
- **Water:** 89%
- **Protein:** 1.1 grams
- **Carbs:** 9.3 grams
- **Sugar:** 4.2 grams
- **Fiber:** 1.7 grams
- **Fat:** 0.1 grams

Parts Used

Fresh or frozen crystalline onion, crushed onion powder, rotten metal powder, salt, onion juice), essential oil, fresh onion, chopped, ground. Dried onion is ground into granules, ground.

Medicinal Uses and Functional Properties

Onion is used in the treatment of loss of appetite and prevention of age-related changes. In blood vessels (atherosclerosis) onion and its juice may be used to treat minor digestive disorders and to overcome the immediate effects of insects. A decoction of the amoeba mixed with sugar and honey is a traditional remedy for colds and coughs, dysentery, wounds, keloids, and diabetes. Among the many traditional uses of onion, it is known to have anticancer, antimicrobial, hypoglycemic, antiplatelet, anti-asthmatic, anti-allergic, lipid-lowering, and blood pressure-lowering properties (Williamson and Manaj 2005 Sangkweta et al. 2004 Coley and Emling 2009 Yu et al. 2010 Tajuddin et al. 2010 Gorinstein et al. 2011 Pong et al. 2011 Kim et al. 2011 Mantavi et al. 2011 Weary et al. 2011 Zhou et al. 2011) and has been found to be a rich source of dietary flavonoids. Various flavonoids have been identified, and quercetin and its glycosides are the most important (Boyer et al. 2005; Wong and Zebi 2008; Slimestad et al. 2007). Higher concentrations of quercetin occur in the dry outer layers of the onion bulb (Smith et al. 2003). There are a few studies on the antidiabetic effects of onion peel extract in vivo (Nemet et al. 2007; Piskula, Kanter et al. 2007). Clinical trials have so far focused mainly on garlic (*A. sativum*), but there is good clinical evidence for its use in the treatment of: Decrease appetite and prevent atherosclerosis. Onions act as a stimulant, diuretic, and diuretic. Lower blood sugar and cholesterol levels (August 1990). Onion oil contains cardiac stimulants and increases coronary flow (August 1990). Prevent oral infections and toothaches (Knight 1996). Onion essential oil has been shown to be a potent inhibitor of yeast growth (Kim et al. 2004). They were also Antibacterial properties were found. Oral administration of onion extract was shown to prevent cadmium-induced renal dysfunction (Ig et al. 2009). Quercetin is an active constituent. Onions also have antimicrobial properties (Geoghegan et al. 2010). Onion extract and quercetin are involved in anti-scarring effects in the skin through regulation of 1-MMP expression, indicating that this substance is a promising agent for reducing scar formation (Chu et al. 2010). *Cepa album* extract was shown to reduce blood sugar. Therefore, it can be used as a dietary supplement in the management of type 1 and type 2 diabetes (Tajuddin et al. 2010). Treatment with onion and garlic methanol extract was found to prevent body weight loss and decrease plasma Glucose levels and significantly reduced blood pressure, TBARS, serum nitrite and GSH levels in diabetic

rats. Onion extract was higher in total phenolics (Bhanot and Shri, 2010). Quercetin and ethyl alcohol extract from onion peel was found to reduce blood sugar through inhibition of glucosidase. Kim et al. 2011. Zhou et al. (2011) reported that in a meta-analysis, high intake of allium vegetables (onion, garlic, oyster, leek, bean) ultimately reduced the risk of gastric cancer.

Ingredients and Methods

First, you Should Ask Yourself How Onion Juice Can Strengthen Hair and Prevent Hair Loss?

The nutrients in onion juice can nourish hair follicles, which will increase volume, shine, and promote hair growth. In addition, the abundant nutrients in onion juice can minimize hair thinning and brittleness. The reason is that onion juice can help improve the health of your hair. The sulfur in onion juice increases collagen production, which also increases hair growth. According to a study in Iraq, onion juice can increase hair growth and treat conditions such as sudden hair loss. People who wash their hair with onion juice have more hair growth. Onion juice may also make your hair shinier and shinier, and the antimicrobial properties of onion juice can also help fight scalp infections. Having a healthy scalp means having stronger hair follicles. One theory about how onion juice is beneficial for hair regrowth is that onions contain sulfur, which is an edible sulfur. Sulfur is one of the most common minerals in the body. We need sulfur to produce enough enzymes and proteins. Sulfur is also found in keratin, which is a component of hair. Sulfur with sulfur onion juice can provide the necessary nutrients for hair growth. Onion juice has antimicrobial properties that fight scalp infections. In some cases. Scalp infections can lead to hair loss. If the scalp is healthy, it will have stronger follicles. Onion juice contains antioxidants such as flavonoids. Antioxidants can protect the body against free radicals. Free radicals cause the aging process. For example, free radicals can damage hair follicles and lead to thinning and hair loss. Eliminating or reducing free radicals can reduce damage to hair follicles.

How to use onion juice for hair?

For those who want to use onion juice to improve hair health or increase hair regrowth, it is easy. Peel about four onions and chop them. Use a juicer or any other method that is easier for you. Extract the onion juice. Another way is to put the onion pieces in a blender and make a paste. Put the paste in a coarse cloth and squeeze to extract the juice. Apply the onion juice to the scalp and hair roots. A few drops of lemon juice or essential oil can reduce the strong smell of onions. Peppermint, lavender or rosemary extracts can be good options.

Are there any side effects to using onion juice?

Although onions are not eaten in this method, contact with the skin may cause allergic symptoms in some people. Onion juice may cause itching and redness in people who are not allergic to onions. To make sure that onion juice does not cause any particular sensitivity, test a small amount of it before using it on your entire scalp. To do this, you can apply a small amount of onion juice to the inside of your elbow or behind your ear and wait a few minutes. If there is a change, it is better not to use onion juice on your scalp. Onions contain FODMAPs, which are a group of carbohydrates and fibers that many people cannot tolerate. They may cause unpleasant digestive symptoms such as bloating, gas, and diarrhea. People with IBS are often intolerant to FODMAPs and may want to avoid onions. Onions may have adverse digestive effects in some people, and raw onions can cause irritation of the eyes and mouth. Onions may be toxic to some animals.

- Onion juice and coconut oil for thick hair
- Onion juice 1 tablespoon Coconut oil 3 tablespoons

How to prepare

Mix onion juice and coconut oil well. Add a few drops of another oil, such as olive oil, to the hair mask ingredients. Massage the scalp thoroughly with the mixture of oil and onion juice and let this mask remain on the scalp for 1 to 15 hours. After the specified time, wash your hair well with warm water and shampoo. Note: Do not use this mask more than once a week.

Rinsing Your Hair with Onion Water

Boil the chopped onion in a liter of boiling water for 15 minutes, then let it cool, strain it, and rinse your hair with it after shampooing.

Onion Juice and Sugarcane Juice

A medium onion should be chopped and placed in a glass of sugarcane juice overnight and after at least 12 hours, strain this mixture and discard the chopped onion in the sugarcane juice. To strengthen your hair with this mixture, you can massage it on your scalp and then wash it off or you can rinse your hair with it after shampooing.

Onion Juice and Honey

This easy method works in two ways, you can consume it orally, or apply it to your scalp. But to use it as a hair mask, you should: Mix 2 tablespoons of onion juice with 1 tablespoon of honey. Completely cover your scalp and hair with this mask. After 15 minutes, wash your hair with water and shampoo. It is recommended to use this hair mask once a week.

Male-pattern hair loss (MPHL) is a slowly progressive form of alopecia that begins after puberty. In 2010, we published the first version of the Japanese guidelines for the diagnosis and treatment of MPHL. The main aim was to provide evidence-based information for physicians and patients in Japan to choose effective and safe treatments for MPHL. Since then, new therapeutic drugs and treatment modalities have been developed, and women's understanding of MPHL has changed, and the term female-pattern hair loss (FPHL) has become more common internationally. Therefore, we report here a revised version of the 2010 guidelines with a focus on MPHL and FPHL. These guidelines recommend finasteride 1 mg daily, 0.5 mg twice daily, and topical 5 mg minoxidil twice daily for MPHL, and topical 1 mg minoxidil twice daily for FPHL as first-line treatments. Autologous hair transplantation, light-emitting diodes and low-level lasers, and topical adenosine are recommended for MPHL, whereas synthetic hair transplantation and oral minoxidil should not be used. Oral finasteride or two steroids are contraindicated for FPHL. In addition, we evaluated the efficacy of topical t-flavanone chloride, cytoporin, pensadecane, and ketoconazole, and wig wearing. The unapproved topical application of the herbal medicine manatoprost and lananoprost, and emerging hair treatments are also considered. We believe that the revised guidelines will further improve the diagnostic and therapeutic standards for MPHL by adding FPHL in Japan. In addition, like garlic, onions also contain alliin. Flavonoids including cotrienol are thought to enhance hair growth by inducing contact dermatitis and subsequent immune response. In a small study of 38 male and female patients with alopecia areata, subjects were randomly assigned to apply either onion juice or tap water to the affected areas twice daily for 2 months. Hair regrowth was observed in 20 (86.9%) of the patients treated with onion juice. In 6 weeks, hair regrowth was significantly greater in men than in women. Only 3 (13) of the patients in the control group showed hair regrowth within 8 weeks. Alopecia areata is a painless, scarless hair loss condition. Any hair surface may be involved, and various treatment modalities have been used to induce hair regrowth. A study was designed to evaluate the efficacy of topical raw onion juice in Araya-Stained Treatment Compared to Fresh Water Patients were divided into two groups. The first group treated with onion juice included 23 patients, 16 of whom were male (5.69) and 7 of whom were female (5.30). Their ages ranged from 5 to 42 years with a mean of 22.7 years. The second group treated with purified water control included 15 patients, 80 of whom were male (5.303) and 7 of whom were female (6.46). Their ages ranged from 3 to 35 years with a mean of 18.3 years. Both groups were advised to treat twice a day for two months. Regrowth of coarse terminal hair began after two weeks of treatment with raw onion. At four weeks, growth of 17 hairs was observed in 17 patients (9.73) and at six weeks, 17 hairs were seen. Hair regrowth was observed in 20 patients (86.9%) and was significantly more in males (93.7%) than in females (71.4%) ($P < 0.0001$). In the tap water control group, hair regrowth was observed in only 2 patients (13) at 8 weeks of intervention. The gender difference in the present study showed that the use of raw onion juice resulted in significantly higher results in hair regrowth than tap water ($P < 0.0001$) and it could be an effective topical treatment for Alopecia areata.

Results

According to the studies conducted on the two plants onion and garlic, they can be used as very suitable compounds in the production of food and pharmaceutical products. To do this, it is necessary to know all the organoleptic characteristics and biological activities of the two. Another very important issue is related to the smell and substances released from garlic and onions. In addition, the sensitivity of the active compounds of garlic and onions to heat can have adverse effects in the treatment of cardiovascular diseases, cancers and diabetes. Therefore, new studies should be directed towards producing odorless and tasteless food compounds and products from garlic and onions so that all the biological properties present in them are preserved. The problems related to the taste of garlic and onions have been solved by placing them in a coating and losing its properties; so that placing them in a coating can easily be accompanied by a decrease in the biological activity of garlic and onions. It is worth noting that in addition to that, it increases digestive problems. Another important point is to pay special attention to the antioxidant properties of these plants; Because studies conducted on animal models show that these plants increase the level of antioxidant enzymes by eliminating active oxygen and nitrogen, it is recommended to consume plants containing compounds with high antioxidant activity daily, such as: syrah, angoureh, and olives, which are also mentioned in the Holy Quran. Research in industrial sectors should be carried out by improving the extraction stages and methods, and in order to obtain the properties of garlic and onion and their derivatives with high quality and maintain and improve their biological properties. Also, considering the anti-leishmanial properties of garlic and onion, it is necessary to evaluate laboratory studies of the extract and essential oil of this plant on animal models. According to studies, onion juice can be a good alternative to various chemical drugs with repeated and continuous use because it is rich in sulfur minerals.

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