

KASNI (*CICHORIUM INTYBUS* L.): A REVIEW ON MEDICINAL UTILITY IN PERSPECTIVE OF UNANI MEDICINE

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ABSTRACT

Kasni (*Cichorium intybus* L.) or Chicory is a perennial herb of the dandelion family, (Asteraceae), usually with bright blue flowers, rarely white or pink which is used widely in Unani System of Medicine. It is an erect and procumbent herb that attains about 40-80cm high. There are two main varieties of Kasni one is sweet and second is wild. The most popular variety of Kasni used for medicinal purposes is *Cichorium intybus* L. Different parts of the herb are used for medicinal purposes like leaves, seeds and root. It is well known for the resolvent action of internal organs and especially for its hepatoprotective and nephroprotective properties, regarding the hepatoprotective activity, chicory extract reduces the levels of hepatic enzymes such as alanine aminotransferase, aspartate aminotransferase and alkaline phosphatase. It contains dietary fiber Inulin which is useful in treating diabetes and constipation. Besides inulin it contains other chemical constituents like sesquiterpene lactones, coumarins, citric and tartaric acids, lactic, acetic, palmitic, pyruvic acid etc. Its leaves contain vitamin B2 and C, root contains series of glucofructosans. The main actions which are attributed to chicory are deobstruent, diuretic, blood purifier, antipyretic and anti-inflammatory as mentioned in Unani medicine. It is recommended in the treatment of jaundice, gastritis, ascites, arthritis, asthma and many other disorders, either alone or in compound form. This review gives knowledge on distribution, morphology, phytochemistry and pharmacological aspects along with its therapeutic uses in perspective of Unani System of Medicine.

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INTRODUCTION

Unani System of Medicine or Greco-Arabic Medicine is a form of traditional medicine which is based on teachings of great Greek physician Hippocrates (460-377 B.C) and Roman physician Galen (129-200 A.D). Medicinal plants are known to play an important role in the prevention of diseases and ailments. A large number of herbal drugs which bear certain pharmacological actions are still in use. *Kasni* (*Cichorium intybus* L.) belongs to the family Asteraceae is one among them which is known since ancient times. Its medicinal properties are mentioned all the physicians of Unani

Medicine viz; Dioscorides, Galen, Razes, Avicenna, etc. [1] Its name "Kasni" has been derived from one of the cities of Samarq and namely "Kasan" where it is found abundantly. It is also known as *Ambu boya* an old Syrian word, which means "a very fragrant plant" but its Persian name also has same meaning. [2] It is known that in ancient times when Syrian female dancers were brought to Rome, due to their attraction they were known as *Ambu boya*. Its generic name, *Cichorium*, is said to be of Egyptian origin (perhaps from *Kehsher*), and the common names *Chicory* and probably *Succory* derive from it. The specific name, *intybus*, comes from Arabic word *Handiba*, which is derived from the Latin word

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“Intuba”. *Chicory* was an important medicinal herb, vegetable and salad plant in ancient Egyptian, Greek and Roman times since the 17th century. Its dried, roasted and ground roots have been used as a coffee substitute or adulterant [3]. It is an important medicinal plant has been used in Unani System of Medicine since time immemorial. Its habitants are roadsides, railroads and waste grounds. Flowering period lasts from June to October. Its leaves (*Barg-i-Kasni*), root (*Beekh-i-Kasni*), seeds (*Tukhm-i-Kasni*) and extract *Aab Barg-i-Kasni Sabz Murawwaq* derived from its leaves; *Matbookh* (decoction), *Nuqu* ' (*infusion Chakida Kasni*, *Darida Kasni* and *Arq-i-Kasni* derived from its seeds are used medicinally, and especially for liver and renal disorders). [4] Recent studies have found some of the important constituents in chicory such as caffeic acid derivatives, fructooligosaccharides, flavonoids, inulin, and polyphenol1. Leaves of the plant contain salts such as sulphates and phosphates of sodium, magnesium and potassium as well as potassium nitrate. It also contains a bitter glycoside named cichorine. In traditional medicine, all parts of the plant specially root and leaves are used as diuretic, laxative, anti-bilious, antipyretic, blood purification and strengthening agent of the stomach. It is also used as an appetizer as well as in the treatment of hepatic failure, jaundice, intermittent fever and mild states of chronic skin diseases [5]. *Cichorium intybus* L. is a widespread weed with antibacterial effect.

Distribution

The plant occurs throughout Kashmir, North West India, Punjab, Andhra Pradesh, Karnataka and Maharashtra[6]. It is also distributed in Persia, Europe, Waziristan, Baluchistan and West Asia [6,7]

BOTANICAL DESCRIPTION:

Kasni (*Cichorium intybus*) is an erect, usually more or less glandular, perennial [8] procumbent herb, attains the height of 40-80cm. It has broad leaves like spinach, [9] radical and lower leaves 7.5-15 cm [8] stem 0.3-0.9m, angled or grooved branches tough, rigid, spreading; upper leaves alternate, small, entire, with blue flowers, flowering heads ligulate 2.5-3.8 cm diam, terminal and solitary or axillary and clustered sessile or short, thick stalk, involucre of about 8 inner bracts and few outer smaller ones. [7,8]Involucral scales in 2 rows, the outer shorter and rather lax; the inner 8 or more, converging, equal; receptacle naked, pappus short, equal, composed of elliptical obtuse paleae, in two rows; root spindle shaped, fleshy, whitish, milky; [10]fruit small dry, indehiscent about 3 mm long and 2mm broad, angled, crowned with ring of white or straw coloured, mature fruit when seen with naked eyes are brownish to black as

well as mottled, where as those which are less matured are light yellow; seeds are small, 2.5 mm long ovoid, apex pointed, tip brownish in colour and bitter in taste; root is about 8-10 cm long tapering fleshy somewhat branched and at the top about 1cm wide. Externally and internally root is white in colour when fresh and densely covered by rootlets. The bark is rather thin, radially striate from the bark covered with vessels and separated by a brown cambium line from the finely porous wood. The root tastes sweetish and mucilaginous initially and then very bitter [8]. Flowering occurs in late March to May & Fruiting occurs in Late march to May



Fig.: Showing Kasni plant a) without flowers, b) with flowers, c) seeds, d) flower, e) root.

CULTIVATION, COLLECTION AND STORAGE:

The plant can be cultivated by seeds. The best season for showing the seeds are February. The showing should be made in well prepared bed in rows of 50 cm apart at the rate of 4Kg/ha. The distance between the plants should be maintained 3-40 cm. the harvesting time (shoot and root) is May. At least 4 irrigation and 3 weeding is required between showing and harvesting. [9] When the plant become mature, usually at the end of May, they are harvested, dried under shade or kiln dried, smashed, winnowed and fruits collected. [8] The root are more valuable and can be separated after uprooting the plant and dried in shade before use. Dried fruits may be stored in moisture free air tight containers. Certain preservatives in the form of tablets may also be used to store the seeds for longer period without disturbing the chemical constituents of the drug. [8]

DESCRIPTION OF DRUG ACCORDING TO UNANI LITERATURES:

Kasni is a famous drug of Unani medicine. It is of two types one is from cultivated source and another from wild source. The cultivated source is called *Kasni Bustani*(*Cichorium intybus*) and wild is known as *Kasni*

Dashti or *Barri* (wild variety). In one other description wild variety is mentioned as *Baqulus* and *Qanjuriyun*. [1] Its leaves are broader than leaves of cultivated type and it is somewhat more useful for stomach. Cultivated is again of two types: First one *Handyba Shami*, *Hashmi* or *Balkhi* which has leaves resembles to that of Kahu (lettuce), those are long, broad, rough and somewhat bitter in taste. Flowers are big and bluish in colour. Another one *Handyba al-Baqal* has small leaves and flowers (of same colour) which are bitter in taste. Its medicinal properties are present on upper surface of its leaves therefore it shouldn't be washed [1, 2, 4, 11]. This plant is also got important attention in Islamic world. Arabs refer to this as *Handiba* or *Shikorya*, it was also mentioned to use by Prophet Muhammad (SAW). It is narrated by Ibn Abbas (R.A) that Prophet Muhammad (SAW) said that, "Kasni is available for you and there is not a single day left when showers of paradise doesn't fall on it". Ibn Sina also has described *Handyba* plant as two kind, wild and cultivated endive. Both the varieties bear broad and thin leaves. Endive acts like lettuce (Kahu), but according to some people, endive is less effective, but as deobstruent in hepatic obstructions it is much better than lettuce, however, less effective for reducing hotness and producing nutrition. Bitter endive is considered more useful for the liver. Wild endive which is also called as *Tarkhashquq* is less moist [11]. Ibn Sina in his *Risala Kasni* has reported that it is composed of both cold and hot properties. The effect of cold property is mainly towards routes as it causes their obstruction and due to which entry of matter is hampered, also due to this property matter is rendered viscous and it can't flow, structure of organ is matted, therefore it is not affected by the entry of matter. Its hot property affects the matter which is present within the organ and resolves it. In summer season it is inclined towards warmth because in summer its bitterness increases, since it has bitterness, is tasteless, has salinity and is somewhat astringent, it is evident that bitterness and salinity is mainly because of hot faculty present in it. Due to salinity it acts as deobstruent and because of its astringent property it acts as stomachic and liver tonic. The seeds are sown in the month of October and when the plant become mature usually at the end of May they are harvested, dried under shed or kiln dried, smashed, winnowed and fruits collected [8]

Mutrādīfat (vernacular names):

Arabic: Handuba, Indyba, Handuba Shami, Handuba Balkhi, Handuba al-Baqal, Bazrul Hinduba, Asl al-Handuba, Ma al-Handuba; [2,4] *Baluchistan:* Zral; *Bengali:* Hinduba; *California:* Chicory, Ragged Sailor, Succory *Catalan:* Chicory, Ragged Sailor, Succory, Wild

Bachelor's Button; *Dutch:* Bitterste Chicory, Chicory, Wilde Chicory; *English:* Bunk, Chicory, Succory, Wild Endive; *French:* Barbe De Capucin, Poisde Corde, Cheveuxde Pysan, Chicoree Amere, Chicory Sauvage, Ecoubette, Herbe Café, Herbe Amere, Intybe, Endive; *German:* Blausamenverbel, Cichorie, Hindeg, Weglunge, Wegwarte, Wegueiss, *Greek:* Kischora, Kikori, Kikorion, Sris Pekris, Trasmi, Andutuniya, Antuniya; *Gujrati:* Kasani; *Hindi:* Kasni; *Italian:* Cicorea, Cicoria, Radicchio, Cicueira; *Kashmiri:* Bale hand; *Marathi:* Kachini; *Persian:* Kasnaj, Kasani, Kasni, Tukhm Kasni, Bheek-i-Kasni; *Polish:* Godrognic; *Portugese:* Almeirao, Chicorea, Brava, *Punjabi:* Gul, Hand, Kasni; *Romanian:* Cicoare; *Russian:* Tsikorie; *Spanish:* Achicoria, Achicoria amarga, Chicoria; *Syrian:* Ambuboya; *Tamil:* Kashini Virai; *Telugu:* Kasini Vitullu; *Urdu:* Kasani [1, 2, 7, 8].

Mizaj (Temperament):

According to Ibn Sina fresh Kasni leaves are cold in first degree and wet in last phase of first degree and Bustani (cultivated) is colder and wet. At sometimes its bitterness increases during summer season. Cichorium which grows in hot tempered regions is inclined towards heat and dry Cichorium is inclined towards dryness. Small Cichorium has less water content as compared to large Cichorium, and Bustani (cultivated) is more cold and wet than its counter type *Barri*. Ibn Sina has reported that dry Cichorium is cold and dry in first degree while others have described it as cold and dry in first phase of first degree, some said it as dry in 2nd degree [12]. Separately *Barg-i-Kasni Sabz* (cold and wet), [4] *Beekh-i-Kasni* (hot and dry), *Tukhm-i-Kasni* (cold and dry). [4] The temperament of Kasni varies with environmental condition, when it is inclined towards heat its roughness increases and due to this factor its bitterness also increases [1]. Fresh Chicory is cold in first degree while as dry Chicory due to less moisture content is dry in first degree and green Chicory due to increased moisture content is wet in temperament, garden Chicory is more wet because it has more moisture content than wild chicory, in summer season it is more inclined towards heat because in summer season its bitterness increases [13].

Nafa'' Khas (main action): The main action of *Tukhm Kasni* is hepatoactive in various diseases e.g. *Yaraqan* (jaundice), *Sudda Jigar* (obstructive disorder of liver), *Humma* (fever) due to Safra (bile); [4] Leaves are *musakkin-i-hararat* (coolant of heat) and *Musakkin-i-Tishnagi* (relieves thirst); *Chakida Kasni* is useful for *Warm-i-Jigar* (hepatitis), *Warm-i-Rehm* (metritis) and *Warm-i-Tihal* (inflammation of spleen) [4]

AF'AL (ACTIONS):

Tukhm Kasni (seed) is bitter and has *Musakkin-i-Safra wa Khoon* (cooling), *Mufattih Sudad* (deobstruent), *Mudirr-i-Bawl* (diuretic), *Dafi Hummiyat Safrawiya* (antipyretic), *Dafi ' Suda* (analgesic) [4,14]; *Barg-i-Kasni* (leaves) is *Mubarrid* (refrigerant), *Radi'* (divergent), *Musakkin* (analgesic), *Mufattih Sudad* (deobstruent), *Musaffi-i-Khoon* (blood purifier), *Musakkin-i-Hiddat-i-Safra* (cooling of yellow bile), *Musakkin-i-Hiddat-i-Khoon* (cooling of blood), *Muhallil-i-Awram* (anti-inflammatory), *Muqawwi-i-Jigar* (hepatoprotective), *Muqawwi-i-Mi'da* (stomachic) properties; *Beekh-i-Kasni* (root) has *Mufattih Sudad* (deobstruent), *Musaffi-i-Alat-i-Ghiza* (cleanser of gastrointestinal tract), *Mudirr-i-Bawl* (diuretic), *Daf-i-Awram-i-Ahsha* (resolvent of internal organs), *Musaffi-i-Khoon* (blood purifier), *Muhallil-i-Awram-i-Ahsha* (resolvent of internal organs) etc. properties [2,14,15]. Other properties are *Muhallil warm-i-Tihal* (resolvent of spleen inflammation), *Naf' Gurda* (nephroprotective) [12]. Chicory relieves obstruction of vessels and visceral organs, since it has an astringent property it acts as stomachic and is hepatoprotective [13].

ISTE'MALAT (USES):

Tukhm-i-Kasni (seeds) is used for the treatment of obstructive diseases related to liver and spleen such as *Yaraqan-i-Suddi* (obstructive jaundice), *Suda* (headache), *Istisqa* (ascites), *Sudda-i-Jigar* (liver obstruction), *Du'f-i-Gurda* (weakness of kidney), *Du'f-i-Tihal* (weakness of spleen), *Qai-al-Dam* (hematemesis) and *Humma* (pyrexia) caused by liver diseases. [2,4] *Barg-i-Kasni* (leaves) is useful in *Yaraqan* (jaundice), *Sudda-i-Tihal* (obstruction of spleen), *Humma-i-Safrawi* (pyrexia due to yellow bile) and it also quenches the thirst. [15] *Beekh-i-Kasni* (root) is useful in the inflammation of internal organs, *Istisqa-i-Ziqqi* (ascites), chronic and compound fever, oedema etc. It is also employed in *Salabt-i-jigar* (cirrhosis of liver), *Dard-i-jigar* (hepatalgia), *Dard-i-Tihal* (splenic pain), *Dar-i-mi'da* (abdominal pain)[16] *Su-i-mizaj har kabid* [17], *Warm-i-Gurda Har* (acute nephritis) etc. [18] *Beekh-i-Kasni* is useful in *Waja ' al-Mafasil* (arthralgia), swelling in limbs, inflammation of internal organs, ascites, chronic fevers etc. [15] In other literatures *Cichorium intybus* mentioned as useful against *Ashob-i-Chashm* (conjunctivitis), *Waja'al-Mafasil Harr* (acute arthritis), *Warm-i-Hanjara* (laryngitis), *Niqris Harr* (acute gouty arthritis), *Waram al-Kabid* (hepatitis), *Waram-i-Mi'da* (gastritis), *Waram I Tihal* (splenomegaly), *Diq al-Nafas* (asthma) etc.[6, 8].

ETHNO MEDICINAL USES:

The plant is bitter, acrid, thermogenic, anti-inflammatory, appetizer, digestive, stomachic, liver tonic, cholagogue, cardio tonic, depurative, diuretic, emmenagogue, febrifuge, elixir, tonic, laxative, mild hepatic. Excites peristalsis without affecting the functions of the stomach [19,20]. *Cichorium intybus* L. is a good tonic, cooling, useful in thirst, headache, ophthalmia, throat inflammation, enlargement of spleen, liver congestion, jaundice, fever, rheumatic, gouty joints, vomiting and diarrhea. The root is the best part of the plant, good stomachic and diuretic, enriches and purifies the blood, lessens inflammation and pain in the joints. The seeds are tonic to the brain, appetizer, good in headache, biliousness, lumbago, troubles of the spleen and asthma and its root acts as a stomachic and diuretic. [7, 19].

TARKEEB ISTE'MAL**(MODE OF ADMINISTRATION):**

Arq Kasni Sabz Murawwaq obtained from fresh leaves, its seeds and roots are used medicinally. *Arq Sabz Murawwaq Kasni* is a liquid dosage form prepared with *Barg-i-Kasni* (chicory leaves). The fresh, green, leaves are crushed and their juice is squeeze out. According to Unani physicians leaves should not be washed, as the salts which get deposited on the surface of leaves has *mudir wa muhallil* properties. The extracted juice is subjected to heat. When flocculation and froth appears on the surface of the liquid, liquid is removed from the fire and kept to be cool then filtered through muslin cloth and yellowish red filtrate is collected. [2, 4]

Amrad-i-Nizam-i-Hadm and Jigar (Gastro intestinal and hepatic disorders):

For the treatment of liver obstruction jaundice, ascites, burning sensation of stomach and liver, and spleen, *Kasni* is used alone or with other medicines. Locally its juice is applied on abdomen to treat hepatitis and gastritis. [4] Its *Arq* is used in case of visceral inflammation and also acts as a stomachic and deobstruent [21]. It is taken with *Sharbat Shahtoot* (Syrup of *Morus alba*) to reduce the inflammation of visceral organs such as liver, stomach, spleen etc. [4] In Chicory extract when *Sikanjabin* is mixed and used, it acts as a stomachic. Unwashed leaves of Chicory are useful in constipation, but after washing its astringent activity increases, which makes it useful in hemoptysis. Its flowers also act as hemostatic used in a dosage of 9g with cold water. [2] Its wild variety is effective in *Du'f-i-Mi'da* when taken as vegetable [1]

Locally its paste is applied on abdomen either alone or with *Sattu* to reduce gastritis [1]

Amraz-i-Ras wa A'sab (diseases of head and nerve):

Sandal (*Santalum album*) is rubbed in green Chicory extract and locally applied in the form of *Tila* (liniment) over forehead to overcome headache. [4,22]

Tukhm Kasni is taken with *Sharbat Banafsha* (syrup of *Viola odorata*) for long duration, to induce sleep [2]

Amrad-i-Chashm (eye diseases): For the treatment of conjunctivitis juice of fresh leaves along with vinegar and rose water is applied around the eyes, it gives relief. [4] Application of the juice of wild Kasni leaves is very beneficial in case of *Shabkori* (night blindness) and opacity of the cornea. [1]

Amraz-i-Dahan wa Halaq (diseases of mouth cavity and throat)

The decoction of its root added with vinegar is used as gargle, it gives good effect in hypersensitivity of teeth. [2] The decoction of its root prepared with fresh leaves of coriander (*Coriandrum sativum*) or Amaltas (*Cassia fistula*) or Shahtoot (*Morus alba*) is used as gargle, to combat throat inflammation, and diphtheria [2]

Amraz-i-Qalb (cardiac diseases):

Its wild variety is effective in *Du'f-i-Qalb* when taken as vegetable. It plastered on the chest with barley flour in cases of palpitation. [1]

Amraz-i-Bawl (renal disorders): Because of its diuretic property its extract clears urinary passages.[4] Kasni is used as vegetable and juice of whole plant extract and *Sheera* of its seeds are useful in kidney's hot temperament [25]. *Arq Kasni Sabz Murawwaq* and *Arq Mako Sabz Murawwaq* with other drugs are used for the treatment of *Warm Gurda Har* (acute nephritis). [18] *Arq-i-Kasni* (distillate of Kasni seeds), if taken orally, it stops blood in urine. [2]

Amraz-i-Jild (skin diseases): Dioscorides mentioned that, chicory extract along with mixture of *Safeda* (Zinc oxide) and vinegar is applied over the body as moisturizer [22].

Hummiyat (fevers):

Chicory extract along with *Sikanjabin* is useful in chronic fevers, relieves nausea and intensity of bile, it also useful in palpitations and heat of stomach. Extract of Kasni is useful in inflammation of stomach [22].

Aab Kasni Sabz Murrawaq along with *Sikanjabin* is used for the treatment of chronic and Quartan fevers. [2].

Poisonous bites: Pounded Chicory in the form of paste is applied locally or internally and also its *arq* is used in case of scorpion sting. Chicory is useful in case of

venomous insect bites. A decoction made with Kasni (*Cichorium intybus*), Sandal (*Santalum album*) and Badiyan (*Foeniculum vulgare*) is taken to remove toxins from the body [2]. The paste of seeds alone or along with its leaves is applied locally, it reduces pain which occurs due to scorpion sting, lizard bite any kind of insect bite. [2] Taking the powder of its seeds with olive oil is also very effective to remove toxins of animal bite [2]

Amraz-i-Uzam wa Mafasil (musculoskeletal and joint diseases):

In inflammations its paste is used to produce cooling and soothing effects [22]. Its leaves are pounded and applied locally in case of acute inflammations. A paste prepared from fresh leaves juice with Sattu (*Hordium vulgare* flour) is applied locally to treat *Waja 'al-Mafasil Har* (acute arthralgia) and *Niqris Had* (acute rheumatism). [1, 4] The leaves are externally used to relieve pain in the joints. The flowers are made into *Sharbat* and given in liver disorders. The paste of Kasni is also used in case of acute gouty arthritis [12]. The paste of Kasni along with *Roghan Gul* (rose oil) is applied locally to relieve the inflammation of canthus of eye [23].

MIQDAR KHURAK (DOSAGE):

The dose of *Aab-i-Kasni Sabz Murawwaq* is 48 to 60ml and up to 210 ml [12,13]; *Beekh-i-Kasni* 7gm, *Tukhm-i-Kasni* 5-12gm [13,14]. Powder of its root is used 3-14 gm; the dose of *Arq-i-Kasni* is 84-168ml [2, 12].

MAZARRAT (ADVERSE EFFECTS):

Barg-i-Kasni is not recommended in cough as it produces adverse effects. [4] Its seeds produce breathlessness. [2] Seeds and roots of Kasni produce harmful effects on spleen and kidney, when taken in excess quantity or for long duration. Due to its bad taste, it induces nausea and vomiting [2,4], wild Chicory is not recommended in splenic disorders. [24] It is not useful in patients having cold temperament [2]

MUSLEH (CORRECTIVES):

Sugar and *Sharbat banafsha* is used as corrective for Barge Kasni [4]. Musleh for wild chicory is *Sikanjabin Sada*. Pure honey is used as corrective of the root [24]. *Anisoon* (*Pimpinella anisum* Linn.), *Kateera* (*Sterculia urens* Roxb.) are also have corrective properties [6].

BADAL (SUBSTITUTES):

For *Aab-i-Kasni Sabz Murawwaq* the substitute is *Aab Barg-i-Khitmi Taza* and *Aab Barg-i-Khubazi Taza* [4]. *Tukhm-i-Kashus* (*Cuscuta reflexa* Roxb), *Tukhm-i-Jarjeer* (*Eruca sativa*), and *Tukhm-i-Khurfa* (*Portulaca oleracea* Linn) is used as substitute of its seeds. For *Barg-i-Kasni*, *Shatera* (*Fumeria officinalis*) is used as

substitute, while Kasni Barri is substitute of Kasni Bustani; Mako (*Solanum nigrum*) is also a substitute of Kasni [2,6,14].

MURAKABAT (COMPOUND FORMULATIONS):
Tukhm Kasni, Barg-i-Kasni and *Beekh-i-Kasni* are very

important drug of Unani Medicine. It is one of the important ingredients used for making compound formulations, used for the treatment of a range of ailments related to Braine, Heart, Liver, Kidney, Spleen, Stomach, Skin diseases etc. The detail can be seen in Table 01.

Table 1: Compound preparation having parts of the Kasni as an important ingredient.

S.NO	Name of the compound used	Part of plant used	Dose and method of administration	Indications
01	Arq Baranjasif	Tukhm-i-Kasni	125ml arq with Sharbat-i-Kasoos 20ml/orally	Visceral inflammation and pyrexia and all the visceral organ disorders [26]
02	Arq Gazar amberi ba nuskha kalan	Tukhm-i-Kasni	20ml with some Mufarih Sharbat 12ml or with sugar 12g/orally	Palpitations and general body weakness [26, 27]
03	Arq Hara Bhara	Bikh-i-Kasni Tukhm-i-Kasni	125ml with Sharbat Aijaz 25ml/orally	Tuberculosis [27]
04	Arq Juzam	Barg-i-Kasni	50-100ml/orally	Leprosy, Vitiligo, Scabies, Wounds[28].
05	Arq Kasni	Tukhm-i-Kasni	75-100ml/orally	Hepatitis, Jaundice, Excessive thirst [28]
06	Arq Maul Jubn	Tukhm-i-Kasni Bikh-i-Kasni	84ml with Sharbat e unnab 48ml or with any other appropriate formulation/orally	Purifies blood and is indicated in black bile disorders [27]
07	Arq Maul Leham Mako	Aab Kasni Sabz Kasni wala	125ml with Sharbat Kasoos 20ml in morning/orally	Stomach and liver disorders and general body weakness [26, 27]
08	Arq Murakkab Musaffi Khoon	Tukhm-i-Kasni Beekh-i-Kasni ba Nuskha Kalan	144ml in the morning with Sharbat Unnab 48m/orally	Purifies blood, indicated in boils, pimples, syphilis [27]
09	Arq Musaffi Khoon Qawi	Tukhm-i-Kasni Beikh-i-Kasni	60-120ml/orally	Boils, Scabies, Pruritis, Pityriasis alba, Pityriasis nigra [28]
10	Arq Sheer Murakkab	Tukhm-i-Kasni	125ml with Sharbat-i-Nilofar 25ml/orally	Tuberculosis [26, 27]
11	Jawarish Matagi ba nuskha kalan	Tukhm-i-Kasni	5-5g, morning and evening or after meals /orally	Stomachic, Intestinal and liver tonic, decreases salivation, anti-diarrhoeal, anti-flatulent, indicated in polyuria [26]
12	Majun Chobchini ba nuskha kalan	Tukhm-i-Kasni	5g Majun with fresh water/orally	Analgesic, aphrodisiac, purifies blood [26]
13	Majun Dabeedul ward	Tukhm-i-Kasni	5g with Arq Badiyan and Arq Mako 20-20ml or with any other Badarqa/ orally	Hepatitis, Gastritis, Uteritis, [27]
14	Majun Halela	Tukhm-i-Kasni	10g Majun at bedtime with water/orally	Constipation, acts as tonic for heart and brain [27]
15	Majun Kalan	Tukhm-i-Kasni	5g-7g with milk or water/orally	Useful in sexual weakness, spermatorrhea, leucorrhoea [27]
16	Mufarrih Mo'tadil	Tukhm-i-Kasni	5g in morning singly or with any Mufarrah Arq/orally	Palpitations, anxiety disorders, melancholia [26]

17	Mufarrih Khas	Tukhm-i-Kasni	3-5g in morning or afternoon/orally	Tremors and cardiac disorders [26]
18	Qurs Gul	Tukhm-i-Kasni	3-3 Qurs in morning and evening with appropriate Badarqa/orally	Phlegmatic and chronic fevers [26]
19	Qurs Kafoor	Tukhm-i-Kasni	3g Qurs with Arq Gauzaban 144ml/orally	Tubercular fever, jaundice, acute fevers [27]
20	Qurs Tabasher Qabid	Tukhm-i-Kasni	3g Qurs with water or Arq Gauzaban 144ml/orally	Choleric diarrhea and chronic fevers [27]
21	Qurs Zarishk	Tukhm-i-Kasni	2-2 tablets in morning and evening with Arq Gauzaban or with any other Badarqa /orally	Hyperpyrexia [26]
22	Safoof Fauladi	Tukhm-i-Kasni	3g in morning with water/orally	Bleeding piles, acts as stomachic and liver tonic[26]
23	Safoof Shatera	Tukhm-i-Kasni	5g in morning with 125ml of water/orally	Indicated in dermatological disorders has blood purifier effect [26]
24	Sharbat Bazoori Barid	Post Beekh-i-Kasni	50ml in morning with 250ml water/orally	Liver disorders, hyperpyrexia [26, 27]
25	Sharbat Bazoori Harr	Bikh-i-Kasni Tukhm-i-Kasni	50ml in morning with Arq Badiyan 125ml/orally	Used in liver, renal and bladder disorders [26, 27]
26	Sharbat Deenar	Post Bikh-i-Kasni, Tukhm-i-Kasni	20-40ml/orally	Hepatitis, Metritis, Obstructive Jaundice, Ascites, Pleurisy, Constipation [27,28]
27	Sharbat e Bazoori Mo'tadil	Tukhm-i-Kasni	25-50ml/orally	Compound fevers, Amenorrhea, Urinary retention, Hepatic fibrosis [27,28]
28	Sharbat Kashoos	Bikh-i-Kasni Nimkofta, Tukhm-i-Kasni	50ml with Arq Badiyan 125ml/orally	Relieves obstruction, and is indicated in compound fevers [26, 27]
29	Sharbat Kasni	Kasni Sabz	25-50ml with water or with appropriate Arq 125ml/orally	Inflammation of liver, stomach, intestines, useful in jaundice [26]
30	Sharbat Mushil	Bikh-i-Kasni Nimkofta	50ml with ArqBadiyan 60ml, ArqGauzaban 125ml/orally	CNS disorders, useful in constipation, increases frequency of stools [26]
31	Sikanjabin Bazoori Barid	Post Bikh-i-Kasni, Tukhm-i-Kasni	24g with Arq Gauzaban/orally	Hepatic obstruction, ascites, acute fevers and acts as a diuretic [27]
32	Sikanjabin Bazoori Mo'tadil	Tukhm-i-Kasni	25-50ml/orally	Hepatic fibrosis, Compound fevers, Urinary retention [27, 28]
33	Zimad Barai Gosha Chashm		The paste of Kasni along with Roghan Gul is applied locally	Used to relieve inflammation of canthus of eye [23]

SCIENTIFIC STUDIES:

Bioactive Compounds

Cichorium intybus contains inulin, it also contains sesquiterpene lactones like lactucin and lactucopicrin;

coumarins like Cichoriin, esculetin, esculin, umbelliferon, scopoletin etc. Roots contain glucofructosans, immature root contains citric and tartaric acid but upon roasting it contains acetic, lactic, pyruvic, pyromucic, palmitic and tartaric acid. Its leaves

contain vitamin B2 and vitamin C. Its root is mixed with coffee which helps in digestion and reduces the stimulating effects of coffee and also produces sleepiness by counteracting the effects of coffee, this action is mainly attributed to the presence of lactucopicrin. The roots of *Cichorium intybus* produce latex, inulin 58% a bitter compound composing of lactucin, lactucopicrin, intybin, cichorin taraxasteral, tannins, fructose, pectin, fixed oils, and alkaloids. Aerial part- inulin fructose, resin, cichorin, esculetin [29].

Pharmacological studies

Kasni as Prebiotic

Chicory is rich in fibrous polysaccharide inulin, it is a soluble dietary fiber and resistant to digestive enzyme. It reaches to large intestine or colon essentially intact, where it is fermented by resident bacteria. Lactobacilli and Bifidobacteria agent digest inulin and feed themselves on it. Hence prebiotics act as fertilizers for these symbiotic bacteria. Inulin serves the role of dietary fiber; safety of inulin has been evaluated and accepted by FDA of United States [30]. The leaves and roots are used to treat diabetes [31]. The Alcoholic extract of its root showed significant anti-microbial activity against organisms causing gingival inflammation [32]. Chicory not only contains 58% inulin and sesquiterpene lactones but also contains vitamins and minerals. It is an excellent mild bitter tonic for liver and digestive tract and cleansing the urinary tract. Chicory is also taken as mild laxative [33].

A recent study has shown that root of Chicory consists of high alkaloids, and the root extract of this plant revealed anticancer, antitumor and immunomodulatory properties [34,35]. Chicory is used as an adulterant in coffee so as to reduce gastrointestinal problems like gastritis [36].

Antibacterial activity: The sesquiterpene lactones like lactucin and lactucopicrin were used for antibacterial and antimalarial activity [37]

Antifungal activity: Its antifungal activity was also proved by various studies [38,39].

Nematicidal activity: Chicory also has antibacterial and nematicidal effect [40]. Even though it has antibacterial effect but still little is known on human pathogenic bacteria. Inulin is a dietary fiber which is a starch which is not digestible by the humans but can be used as an artificial sweetener [41]. Recent researches have shown that its alcoholic extract is useful in hepatic damage caused due to chlorpromazine in rats. It bears nephroprotective properties. Chologogue activity is

mainly attributed to polyphenols present in it. Root extract is antimicrobial.

CONCLUSION

The extensive literature survey clearly infers that Kasni (*Cichorium intybus* L.) is a very potent Unani herb which has diverse pharmacological actions and therapeutic indications. Pharmacological studies done on various parts of the plant validates its uses in Unani system of medicine. More studies are required for further evaluation and validation of various parts of the plant with the help of modern scientific techniques.

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