



The Efficacy Of Tiryaqe-Arba (4 Antidote) In COVID-19-A Review Article

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Abstract

“Tiryaq Arba” is a polyherbal Unani formulation in a majoon dosage form that contains four herbal ingredients, namely habbul ghar (*Laurus nobilis*), juntiyanaromi (*Gentiana lutea*), murr maki (*Commiphora myrrha*), and zarawand taweel (*Aristolochia longa*). The medicine has been used as an antidote against different poisons and as a prophylactic medicine before and/or during epidemics. The constituents have been proposed to act as anti-infective, anti-microbial, and antidote against various infectious agents during epidemics (waba). Scientific experimentation of the above-mentioned constituents has also reinforced their beneficial antiviral, immune-modulatory, and antioxidant properties against epidemics of acute respiratory viral infections. Which are a greater cause for morbidity and mortality faced by the world, earlier and at present. The coronavirus disease 2019 (COVID-19) outbreak, which originated in Wuhan, China, has now spread to 192 countries and administrative regions infecting nearly 800,000 individuals of all ages as of 31 March 2020. Unani system of medicine has a detailed description of drugs that are utilized in many infectious diseases, including respiratory infections. Immune response is essential to eliminate virus and to preclude disease progression to severe stages. Therefore, it is important to summarize the evidence regarding the preventive measures, control options such as immune-stimulator and prophylactic treatment in Unani medicine against Covid-19. This review summarizes various pharmacological actions of Unani formulation Tiryaq-e-Arba in Unani literature and various reported pharmacological activities which can possibly provide prevention, control and reduction of complications of this deadly disease.

Keywords: Coronavirus Disease 2019, COVID-19, SARS-CoV-2, Wabai Marz, Tiryaq-e-Arba, Immune response, Unani system of medicine.

I. Introduction of Tiryaq Arba in Unani System of Medicine.

Unani medicine is one of the oldest traditional systems of medicine, which originates from the era of Hippocrates (460 - 377 BC). Unani medicine is based on the concept of four temperaments and four humours, proposed by Hippocrates, the father of Unani medicine. Unani medicine utilizes medicines of herbal, mineral, and animal origin but mostly herbal drugs for both therapeutic and preventive measures of the disease. Unani specifically promotes the prevention of diseases by recommending certain drugs and regimens to empower immunity status and the general health of the body. History of the epidemic has taught ancient Unani physicians to encourage preventive measures during epidemics such as cleanliness and hygiene, isolation of sick patients, disposal of infective materials from the patients, and usage of prophylactic medicine and general tonics before and during infective seasons. Tiryaq is specifically originated and designed by Unani scholars to achieve similar aims.

“Tiryaq Arba” is an age-old Unani formulation to be used by Unani physicians as a prophylactic medicine in epidemics since centuries. The name of this polyherbal formulation justifies its action and composition e.g., “Tiryaq” means “antidote” and “Arba” means four. The medicine has been used as an antidote for prophylactic measures against epidemics as well as an antidote against poisons. Since the medicine is composed of four types of herbal constituents, hence named “Tiryaq Arba”. Habbul ghar (*Laurus nobilis*) is the chief ingredient of this medicine. The other three are juntiayana romi (*Gentiana lutea*), murr maki (*Commiphora myrrha*), and zarawand taweel (*Aristolochia longa*). The medicine is available in a mixture form (powdered constituents are mixed with honey to achieve a semisolid consistency) to be taken at a dosage of 2 - 4.5 g daily. Constituents of Tiryaq Arba have been substantiated for their antiviral efficacy against severe acute respiratory syndrome corona-virus, adenovirus and respiratory syncytial virus infections, parainfluenza virus, human rhinovirus B, and coxsackie-virus, para-influenza virus type 3, Newcastle disease virus, and influenza A virus.

Coronavirus disease 2019, caused by a novel coronavirus, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), resulted in a catastrophe in recent times. It has been estimated to have infected more than 678 million people, with around 6.7 million deaths globally as on 16 February 2023. During the course of the pandemic, several treatment modalities have been evaluated for COVID-19, which include the use of Remdesivir, Ivermectin, Hydroxy chloroquine, Chloroquine, Corticosteroids, Lopinavir / Ritonavir, Favipiravir and convalescent plasma therapy and many more. However, no decisive scientific consensus has been reached regarding the efficacy of many of these drugs in the treatment of COVID-19 in hospitalized and non-hospitalized patients. Later, various types of vaccines were rolled out globally against SARS-CoV-2 infection. These vaccines induce considerable Humoral and cellular-mediated immune responses with good efficacy. SARS-CoV-2 is constantly evolving through random mutations that often increase the virus' ability to evade adaptive immune response leading to an increased risk of reinfection or decreased efficacy of vaccines and the possibility of breakthrough infection even after complete vaccination.

Epidemics of infectious diseases have been documented throughout history. Ancient Greece and Egypt

described epidemics of small pox, leprosy, tuberculosis, meningococcal infections and diphtheria.¹ Hippocrates was among the first to record his theories on the occurrence of disease in his treatise “Air, water, and places”, Hippocrates dismissed supernatural explanations of disease and instead attributed illness to characteristics of the climate, soil, water, mode of life, nutrition and surrounding of the patient.^{2,3-}

⁵ Severe acute respiratory syndrome coronavirus-2 (SARSCoV-2) is a newly identified virus that differs from severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV) but can cause similar symptoms associated with pneumonia.^{6,7} This viral disease was named “COVID- 19” by the World Health Organization (WHO) and was first recognized in Wuhan, Hubei Province, in China in December 2019 and may originate from eating wildlife, an established tradition in the oldest of human cultures. The disease is thought to be mainly transmitted through droplet infection, touching and shaking hand with infected individual may also transmit the infection. Researcher has also believed that virus may be transmitted via fluids, i.e. mucus.

Symptoms appear after an incubation period of two weeks. During this week virus replicates in the upper and lower respiratory tracts. Common symptoms in infected individual include fever, cough, sore throat, runny nose, breathlessness and the lesion in the lungs.^{8,9,10,11,12,13,14} Clinical diagnosis of Covid-19 is mainly based on epidemiology, history, clinical features and some diagnostic tests. Commonly used techniques for SARS-COVID-19 nucleic acid are RT-PCR. Apart from this we can predict it by Nabz (Pulse) and Baraz (Stool), Usually Nabz becomes Sagheer wa Mutawatir, and the araz (stool) of infected person has foul smell.^{15,16}

II. Background of Epidemics in Unani Medicine

Unani theoretical framework conceptualized that human health is based upon the homeostasis of the four humours and temperaments in association/under the influence of six essential factors. Disturbance in the normal routine of six essential factors such as

- (1) Air,
- (2) Food,
- (3) Sleep and awareness,
- (4) Physical activity and repose,
- (5) Mental awareness and repose, and

(6) Elimination and retention which disturbs genetic homeostasis of the humours for a person viz production of morbid humours. These morbid humours are the root cause of pathology produced in the body.

Unani medicine affirms that the occurrence of infectious diseases requires three factors (1) infectious agent; (2) vulnerability in the human body; and (3) environmental conditions. Epidemics are greatly discussed in the Unani literature. Unani scholars suggest that the spread of epidemics occurs via infected air, water, and soil or altogether. The air may also change/epidemics are exacerbated due to disturbance in the natural balance of the earth or could be due to global warming. Unani scholars proclaimed that certain areas of the earth have changes in intensity/ wavelength of rays which have a negative impact on the air of that area. The old air near

the soil generally gets purified with healthy rays becomes infected due to bad changes in the rays. These infected vapors may cause the growth and mutation of an infectious agent. Unani scholars also documented that bad disposal of refuse/waste, collection of water, and bad community hygiene promotes the development and spread of epidemics. These could be the plausible reason for the rise of epidemics/pandemics in this era. Reputed scholar of Unani medicine, Ibne Sina (Avicenna, 930 - 1037 AD) documented in “Al-qanoon Fit Tibb” that certain qualitative changes occur in the air during epidemics. Lack of diagnostic methods of identifying infectious agents during that era led Ibn Sina to call those changes as the presence of infected vapors in the air which is a broad term to denote the presence of many elements in the air of epidemic area including the infectious agent. Ibne Sina proclaimed that hotness and humidity promote the growth of infectious agents and the spread of epidemics. He also stated in the book “Al-Qanoon fit Tibb” (The canon of medicine) that those epidemics which occur during the spring season are worst in nature (pathology/severity/spread). His statement on the spread of epidemics via air suggests that core-changes such as the presence of infectious agents occurs in the air of that epidemic area.

As per Unani medicine exact term or disease is not mentioned in Unani literature but it can be explained under the heading of Humma-e-Wabaiya Symptoms of Humma-e- Wabaiya and covid-19 looks very much similar.^{15,18} Hummae-Wabaiya is the type of catastrophic fever which occurs due to unavoidable changes in the air (qualitatively or quantitatively). As a result air become impure and finally it give rise to abnormal temperament of Rooh which subsequently results into morbidity and mortality. As fresh and pure air is essential for health, any contamination in the air may affect the health of any person and it depends on the intensity of contamination. Zakariya Razi (865–925 CE) stated in his book Kitab al Mansoori that most epidemics occur during the autumn season, mostly when previous summer season was humid, and the wind is still¹⁵, Razi in the 15th volume of his treatise Kitab al-Hawi (The Comprehensive Book of Medicine), also stated that change of temperature makes people more susceptible to respiratory infections and stressed this fact and stated that 'there will always be something common in patients of epidemics, whether a place, food, drink or travel history'¹⁹. Furthering the view, Ibn Sina (980-1035 CE) stated that epidemics spread from one person to another, and one city to another (Sina, 1878). During the 14th-century plague pandemic, Arabian scholar Ibn Khatib (1313–1374 CE) stressed that 'most of the people who come in contact with a plague victim will die'. In the same context, he states, 'the disease spreads through clothes, utensils and jewellery'.^{20,21} In the same vein, this statement stresses on social distancing and isolation, two important aspects of prevention during COVID 19 pandemic.

In Unani system of medicine, “Decreased Immunity Disorders” was documented by most prominent physicians in classical Unani literature. Unani medicine is rich with formulations useful in the prophylactic and therapeutic management of Nazla-e- wabaiya (epidemic influenza) and other flu like symptoms. In Unani Tib, “tabiyat” is considered as a real healer. In this regard, “majoosi” wrote quoting “Hippocrates” that “tabiyat” is the real restorer of health and curer of disease. If the tabiyat is strong enough and has not succumbed to the infection, a good and healthy sign is seen and that is the production of specific humours (immunoglobulins) against the microorganisms to get rid of the infection. The humours of these

persons are similar to the putre air so these people are susceptible to wabai amraz.^{22,23,24} Unani physicians had mentioned different diet schedule and preventive drug regimes including the use of muharrikat and tiryaaqat to combat from these conditions incurred from weak tabiyat. Tiryaaq Arba is an age old pharmacopeial Unani compound formulation and is used in immune-compromised, weak and feeble patients and also this formulation is being used by old Unani Hakims, for treating catarrh and recurrent infections.²⁵

III. Clinical features of Amraz-e-Waba

Clinical features of Amraz-e-Waba depend on the quality of humours, seasons, quality of air, the direction of air, physis, types of diet, habitants, ages, celestial bodies, contact of microbes (Ajsam-e-Khabeesha), etc. A number of clinical features arise during Amraz-e-Waba, such as high-grade fever, headache, nausea and vomiting, dry cough, running nose, pneumonia, hunger breathing, respiratory distress, alternate and small pulse, loss of appetite, foul smell from breath, dry tongue, asthenia, confusion, insomnia, rashes over the body, splenomegaly, abdominal pain, enlarged lymph nodes, sweating with bad odor, frothy stool, syncope, coldness in both upper and lower extremities, fatal death.

IV. Preventive measures (Tahaffuzi Tadabeer) of Amraz-e-Waba

Unani medicine recognizes the impact of climate and environmental factors on human health. Temperament is the most basic concept of health promotion and disease prevention. The Unani medicine system classics explicitly state that health care is superior to treatment. During disease conditions, therapy is carried out using the opposite temperament non-drug (diet) and drug factors, whereas, for health maintenance, non-drug factors of the same temperament are often used. Unani medicine puts particular emphasis on the six important factors (Asbab-e-Sitta Zarooriya) for health maintenance, i.e., ambient air, food and drink, bodily movement and repose, mental movement and repose, sleep and wakefulness, and evacuation and retention. If the air becomes contaminated and epidemical, one should take precaution by drying the body and adjusting the residence with substances that cool and humidify by their action – this is the correct action in epidemic – or carry out a warming action against the corrupting element. Pleasant and aromatic perfumes are the most effective in this regard, especially if they are antagonistic to the temperament favoring the epidemic. In an epidemic, one should reduce excessive intake of air through ventilation and distribution. Very often, the source of air distortion is from the ground; therefore, it is preferred to sit on sofas and seek well-aerated, high locations for residence. Frequently, the air itself is the source of distortion due to its mixing with neighboring contaminated air or an inexplicable atmospheric cause. In this case, it is better to seek shelter in houses or “quarantena” that are surrounded by walls and bedrooms. The incenses most suitable for treating distorted air are galingale (*Cyperus longus* L.), loban (*Styrax benzoin* W. G. Craib ex Hartwich.), myrtle (*Myrtus communis* L.), roses (*Rosa damascena* Mill.), and sandalwood (*Santalum album* L.). The use of vinegar during epidemics is protective. Hakeem Akbar Arzani (1772 AD) quotes that during the epidemic or pandemic, regular oral use of Roghan-e-Gao (cow ghee) along with externally massaged over the body is most effective.

A. Shelters (Makan)

Houses of patients with epidemic fever should be kept cool because cold temperature suppresses infection, and infection cannot occur without heat. The house has to be cleaned regularly and air has to be purified. In order to keep the house cool, cold temperament fruits such as Utruj (*Citrus medica* L.) and apple (*Malus domestica* L.), cold aromatic shrubs like Gul-e-Banafsa (*Viola odorata* L.), Gul-e-Nilofar (*Nymphaea alba* L.), Baid Mushk (*Salix alba* L.), and branches of neem (*Azadirachta indica* L.) are kept in the house. Lakhlakha (inhalants) and Nazuhat (spray) prepared from cold fragrant fruits, Kafoor, Arq-e-Gulab, Arq-e-BaidMushk, Arq-e-Nilofar are to be kept at home, and it is best if there is a fountain at home.

B. Drugs (Advia)

To a patient with epidemic fever, Qurs Kafoor and ruboob acting as coolants are given. Ma-ur-Rayeb (water of curd) is given to drink, buttermilk, Arq-e-Gulab, Aqueous of Paneer, vinegar to be mixed with water and given, cold water is also beneficial. But if cold Sirka (vinegar) is given very often in heat, it irritates. In severe cases, if there is a feeling of pressure below the ribs and dilatation is present, extremities turn cold, restlessness and delirium happens, then warm clothes should be worn that absorb the heat externally.

C. Diet (Ghiza)

Sour foods (Tursh Ghiza) are generally recommended but in less quantity, though use of meat is avoided, but, Halam, Qarees, Masoos are foods prepared with meat and vinegar (Sirka) or other sour food substance such as Sumaq (*Rhus coriaria* L.), Aab-e-Angur Kham (*Vitis vinifera* L.), Aab-e-Limu (*Citrus limon* L.), Aab-e-Anar (*Punica granatum* L.) are advised. Mukhallilat (pickle made using sirka) especially "KibrMakhl" is very effective, and Hing (*Ferula foetida* L.) is also effective against infections; anorexic patients should be promoted to take food forcefully.

D. Air purification (Islah-e-Hawa)

According to the health of the patient, dryness to be produced in the air so as to prevent infection. Air purification can be carried out by the fumigation of some antiseptic drugs like Oodkham (*Aquilaria agallocha* Roxb.), Amber (*Amberis grasea*), Kundur (*Boswellia serrata* Roxb.), Mushk (*Moschus moschiferus* L.), Qust Shirin (*Sassurea lappa* Clarke), Sandarus (*Hymenaea verrucosa* Gaertn.) Hing (*Ferula foetida* L.), Qaranfal (*Syzygium aromaticum* L.), Zafran (*Crocus sativa* L.), Chharela (*Nardostachis jatamansi* L.), Nagarmotha (*Cyperus rotundus* L.), Izkhar (*Andropogon shaenarthus* L.), Abhal (*Juniperus communis* L.), Waj (*Acorus calamus* L.), BadamTalkh (*Prunus amygdalus* Batsch). Suggested use of Sirka (Acetic acid) and Hing (*Ferula foetida* L.) has also been suggested by Unani physicians as a spray to prevent infection.

The following drugs either single or in combination are recommended to use more often as Bakhoor (incenses or fumigation) to prevent the microbes and their infection such as Sandal (*S. album* L.), Kafoor (*Cinnamomum camphora* L.), Post Anar (*P. granatum* L.), Tuffa (*M. domestica* L.), Aas (*M. communis* L.), Bahi (*Cydonia oblonga* Miller.), Abnoos (*Diospyros ebenum* J. Koenig ex Retz.), Sazaj (*Cinnamomum tamala* L.), Jhau (*Tamarix dioica* Roxb.)

E. Regimes (Tadabeer)

To prevent epidemics, “Ratoobat-e-Fazila” (morbid humours) from the body should be expelled through Qai (vomiting) and Ishal (purgation with the help of *Cassia angustifolia* L.) and Fasd (venesection) and other essential regimens of Asbab-e-Sittah Zaruriyah (six prerequisites for existence) which produces dryness in the body, including drugs and reduce food intake, avoiding Riayzat (exercise) and Hammam (bathing). Moreover, use of drinks restricted to avoid moistness in the body. An antidotes like Tiryaaq-e-Mashridutes, Tiryaaq-e-Wabai or Gil-e-Armani are recommended by Galenus to use as prophylactic medicine before the being of the air born infection as (Hawa-e-Wabai).

Management of the epidemic through Unani medicine

In the Unani system of medicine, there is no description of coronavirus, but the clinical features are similar to those of Amraz-e-Waba (epidemic disease). In Unani literature well description available for epidemic condition and their management. Rhazi and Avicenna suggested following restriction of movements, reduced diet intake, and especially to avoid meat, oil, milk products, and alcohol during epidemics. Protection of vital organs (heart, lungs, brain, and liver) is compulsory. Use antidotes, especially during epidemic conditions. Some antidotes which have been described in Unani literature, such as Tiryaaq-e-Wabai, Tiryaaq-e-Farooq, Tiryaaq-e-Arba, Tiryaaq-e-Nazli, Tiryaaq-e-Mashridutes, Qurs Zahar Mohra, etc., are used as prophylactics and therapeutics.

V. Description of Tiryaaq- E- Arba.

The literal meaning of Tiryaaq is antidote and Arba is an Arabic word, which stands for four. Tiryaaq e Arba is a compound Unani formulation, consisting of four mufrad (single) drugs namely Zaravand Taveel (*Aristolochia longa*), Habbul Ghaar (*Laurus nobilis*) Pakhanbed or Juntiana romi (*Bergenia ligulata*) and Murmaki (*Commiphora myrrh*). It is also known by the name of “Tiryaaq Sagheer” as per the book “Bayaz Khas/ ilajul amraz” of Hakim Shareef Khan, translated by Hakeem Mohammad Kabiruddin³². The composition of the formulation is as follows: ³

These four drugs viz. Zaravand Taveel (*Aristolochia longa*), Habbul Ghaar (*Laurus nobilis*) Pakhanbed or Juntiana romi (*Bergenia ligulata*) and Murmaki (*Commiphora myrrh*) are powdered in Mortar and Paste and passed through required sieve for uniform size and finally packed in Empty Hard Gelatin Capsule shell and dispensed for patient and suggested to taken as per requirements.

Table 1: Formula of Preparation of Tiryaaq e Arba.

S. No	Name	Botanical Name	Quantity
1	Juntiyana / Pakhanbed	<i>Gentiana lutea</i> L. / (<i>Bergenia ligulata</i>)	1 part
2	Zarawand Taveel	<i>Aristolochia longa</i> L.	1 part
3	Mur Makki	<i>Commiphora myrrha</i> (Nees) Engl.	1 part
4	Habb ul Ghar	<i>Laurus nobilis</i> L.	1 part

Tiryaaq-e-Arba is a well-known formulation for its different pharmacological activities as antiviral, analgesic, anti-inflammatory, anti-spasmodic etc. Some of the known pharmacological actions which are mentioned in Unani literature and provenscientifically are mentioned below:

A. Juntiyana (*Gentiana lutea* L.):

Gentiana lutea, the great yellow gentian, is a species of gentian native to the mountains of central and southern Europe.

Gentiana lutea is an herbaceous perennial plant, growing to 1–2 m (3.3–6.6 ft) tall, with broad lanceolate to elliptic leaves 10–30 cm (3.9–11.8 in) long and 4–12 cm (1.6–4.7 in) broad. The flowers are yellow, with the corolla separated nearly to the base into 5–7 narrow petals. It grows in grassy alpine and sub-alpine pastures, usually on calcareous soils.

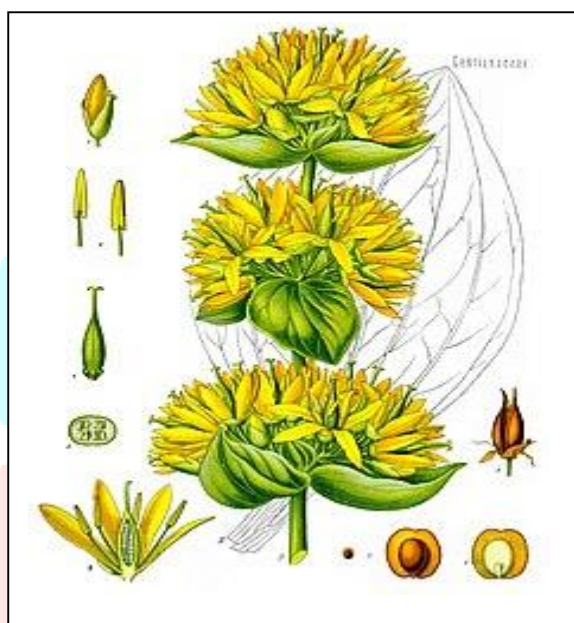


Fig. 1 Flowers of *Gentiana lutea*



Fig. 2 Raw Plant of *Gentiana lutea*

Gentiana lutea is remarkable for the intense bitterness of the root and every part of the herbage. Before the introduction of hops, gentian was used occasionally in brewing. *Gentiana lutea* root has a long history of use as an herbal bitter and is an ingredient of many proprietary medicines. The parts used include the dried, underground parts of the plant and the fresh, above-ground parts. The root, which can be over 5 cm (2.0 in) thick and has few branches, is harvested in the autumn and dried for later use. The name is a tribute to Gentius, an Illyrian king who was thought to have found out that the herb had tonic properties. In veterinary pharmacopeia in the 1860s, gentian root or gentian radix was considered useful as a tonic and stomachic. Extracts of gentian root can be found in the American soft drink Moxie, and its unique flavor is attributed to that fact. It is used in France to produce a number of bitter liqueurs, including Salers in the Cantal, and a Limousin specialty liqueur and aperitif called Avèze. The plants are now cultivated in the Auvergne area in view of their protected status, and they are no longer harvested from the wild in the Auvergne mountains. The European Gentian Association in Lausanne, Cercle Européen d'Etude des Gentianacées, has the objective to develop the knowledge and uses of

yellow gentian and other species of Gentianaceae. *Gentiana lutea* is depicted on the reverse of the Albanian 2000 lekë banknote, issued in 2008. The note depicts King Gentius on its obverse.

B. Zarawand Taveel Aristolochia



Fig. 3 Flowers of Aristolochia



Fig. 4 seeds of Aristolochia

Aristolochia is a large plant genus with over 500 species that is the type genus of the family Aristolochiaceae. Its members are commonly known as **birthwort**, **pipevine** or **Dutchman's pipe** and are widespread and occur in the most diverse climates. Some species, like *A. utrififormis* and *A. westlandii*, are threatened with extinction. *Isotrema* is usually included here, but might be a valid genus. If so, it contains those species with a three-lobed calyx.

Aristolochia is a genus of evergreen and deciduous lianas (woody vines) and herbaceous perennials. The smooth stem is erect or somewhat twining. The simple leaves are alternate and cordate, membranous, growing on leaf stalks. There are no stipules. The flowers grow in the leaf axils. They are inflated and globose at the base, continuing as a long perianth tube, ending in a tongue-shaped, brightly colored lobe. There is no corolla. The calyx is one to three whorled, and three to six toothed. The sepals are united (gamosepalous). The plants are aromatic and their strong scent attracts insects. The fruit is dehiscent capsule with many endospermic seeds. The common names Dutchman's pipe and pipevine (e.g. common pipevine, *A. durior*) are an allusion to old-fashioned meerschaum pipes at one time common in the Netherlands and northern Germany. Birthwort refers to these species' flower shape, resembling a birth canal. *Aristolochia* was first described by the 4th c. BC Greek philosopher and botanist Theophrastus in his "Inquiry of Plants", and the scientific name *Aristolochia* was developed from Ancient Greek *aristos* "best" + *locheia*, childbirth or childbed, relating to its known ancient use in childbirth. The Roman orator Cicero records a different tradition, that the plant was named for the otherwise unknown individual with the common Greek name *Aristolochos*, who had learned from a dream that it was an antidote for snake bites.

B. Habb ul Ghar (*Laurus nobilis* L.):

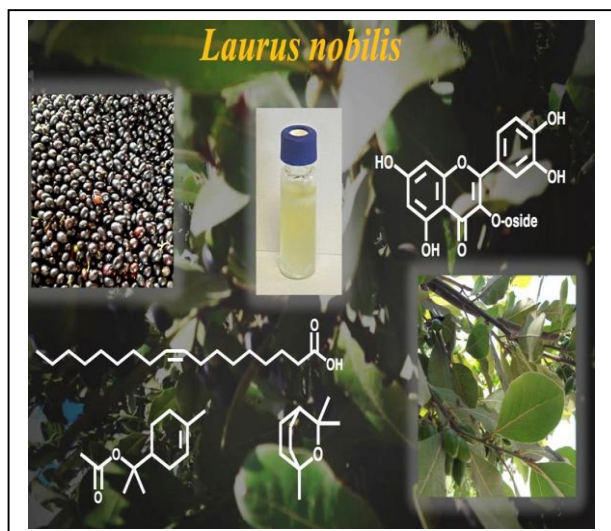


Fig. 5 Seeds of Laurus Nobilis



Fig. 6 Plants of Laurus Nobilis

Laurus nobilis is an aromatic evergreen tree or large shrub with green, glabrous (smooth) leaves. It is in the flowering plant family Lauraceae. It is native to the Mediterranean region and is used as bay leaf for seasoning in cooking. Its common names include bay tree (esp. United Kingdom), bay laurel, sweet bay, true laurel, Grecian laurel, or simply laurel. It is also used in massage therapy and aromatherapy. A folk remedy for rashes caused by poison ivy, poison oak, and stinging nettle is a poultice soaked in boiled bay leaves. The Roman naturalist Pliny the Elder listed a variety of conditions which laurel oil was supposed to treat: paralysis, spasms, sciatica, bruises, headaches, catarrhs, ear infections, and rheumatism.

C. Murr Makki (*Commiphora myrrha* (Nees)

Commiphora myrrha is very spiny and it grows to a height of about 5 m (16 ft). Its short, hairless, thick, and flaky trunk has two layers of bark. The upper layer is silvery, whitish, reddish, or bluish-grey and has a papery-texture. Underneath it, the bark is green and performs photosynthesis. Due to this species' high variability, *Commiphora myrrha* can be difficult to distinguish from other species within the *Commiphora* genus. The leaves of *Commiphora myrrha* are a greyish-green colour with a papery texture. The plant's leaves may come in an oblong or oval shape and are between 6-44mm long, and 3-20mm wide. Each leaf alternates and consists of three leaflets in a pinnately compound arrangement. The plant's yellow-red flowers are dioecious and are arranged in a panicle inflorescence. The flowers of the common myrrh are very tiny and are oval shaped. The male flowers are only 3-4mm long and flower early. Its smooth, brown fruit is about the same size as the flowers, and is shaped like an egg. It is anti-bacterial, anti-fungal, anti-pest and can be used for fumigation or oral use. It has been used as an astringent, antiseptic, anti-parasitic, anti-viral anti-tussive, emmenagogue, and anti-spasmodic agent. It was commonly included in mixtures used to treat worms, wounds, and sepsis. It is also a potent treatment for gingivitis, canker sores, sore throat, boils, arthritis, and acne. Due to its medicinal properties, it is imagined as a potential preventative and therapeutic agent for several diseases, including COVID-19.

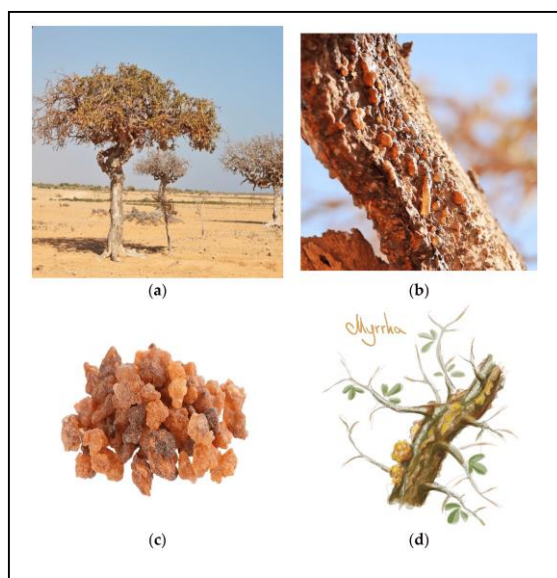


Fig. 7 Resin of Commiphora myrrha



Fig. 8 Plant of Commiphora myrrha

VI. Background of “Tiryaaq Arba”

Unani literature suggests that Unani scholars were well experienced in diagnosing and managing epidemics. They promoted preventive measures such as personal hygiene, abstinence from travel, and isolation of the sick. Through their vast experiences, they utilized various herbs to be used as prophylactic medicine during epidemics. They have used these single and compound Unani medicine in healthy as well as sick individuals before or during epidemics and observed beneficial results. They formulated certain preparation known as “tiryaaq” means “antidote” to be used against toxins and as prophylactic medicine. “Tiryaaq Arba” is one of the compound formulations to be used extensively in Unani medicine until now. It is named “arba” because of the presence of four constituents in it. It is the first and oldest tiryaaq prepared by Unani scholar, “Indru makhiz”. The popularity of “Tiryaaq Arba” rises in the current scenario of epidemics where it can be utilized as prophylactic medicine. Hakim Azam Khan outlined anti-inflammatory, anti-flatulent, resolvent, and antidote properties of Tiryaaq Arba. The above-mentioned properties led to its usage in epidemics such as cholera, plague, respiratory infections, etc. Unani scholars including Hakim Ghulam Jeelani have proposed that Tiryaaq Arba is a potent tonic to heart and brain, thus justified to be used in epidemics where chances of acute involvement of these systems are higher.

Therapeutic Uses of Tiryaaq e Arba

Hakim Azam Khan has mentioned that Tiryaaq e Arba³⁰ is a good anti-inflammatory, anti-flatulent, resolvent and antidote.³¹ It is effectively used in the control and treatment of infectious diseases during the epidemic outbreaks such as cholera, plague, nazlae muzmin etc. Hakim Ghulam Jeelani has mentioned that Tiryaaq e Arba strengthens Heart and Brain. Effective antidote for poisons and toxins.³⁶ Ibne sina has mentioned in AlQanoon that Tiryaaq e Arba is effective antidote against scorpion bites, spider poison and in treating all cold diseases.³⁷ Its action includes Dafe Sumoom, Dafe Tashannuj, Mufattehe Sudad, Mudirre Baul. It's therapeutically used in Tasammum, Tashannuj, Qulanj, Usre waladat, Tasaddude Urooq

and Istisqa³⁸ Hakim Akbar Arzani has mentioned in his book Qarabadin e Qadri³⁹ that Tiryaqe Arba is an antidote for scorpion bite and all animal poisons. It dissolves the ghaleez hawa, opens. It corrects liver and spleen. It is a first and oldest Tiryaq prepared by Indru makhiz which is Garm³ and Khushk². Its life span is 2 years.³⁹ Hakim Mohd. Shariff Khan⁴⁰ in his book Bayaze khaas al maroof ilajul amraaz has mentioned that Tiryaqe Arba is also known as Tiryaqe sagheer and is Garm² and Khusk². Antidote against all poisons including snake, scorpion and spider bites

Mizaj: Garm³ and Khushk², Garm² and Khusk².

Dosage: 500 mg BD in prophylactic dose and in 500 mg capsule QID in adult or as Directed by Physician.

Method of Preparation of Tiryaqe Arba

Tiryaq is a solid preparation which comes in Unit dosage form as Capsule. For any solid preparation, Qiwan (base) of different types of Powder viz Sugar, Calcium carbonate, Talcum, Colloidal silicon dioxide. It depends on the nature of ingredient drugs to be used. All the dry ingredients, after being Grind together and sieved through 80-mesh, are made into a Sufoof (powder). When all ingredients are passed through sieving method then its mixed in cone blander for final mixing. The final product are preserved in glass jar or container with required specific condition i.e. Temperature and Humidity. Tiryaq-e-Arba has Dafa e Sumoom (antidote) and Dafa e Tashannuj (anti-spasmodic) properties and is used in the dose of 250-500 mg capsule twice a day for Five Days for Prophylactic dose or 500 mg Capsule Twice a daily for 15 days in Epidemic or it depend on the severity of patient and disease conditions. Generally Capsule are taken with lukewarm water.^{45,46}

The ingredients of Tiryaq e Arba has various Therapeutic uses and activities related to COVID 19 infection. The detailed description is as follows:

The Dose of “Tiryaq Arba” and Expiration

Administration of capsule of Tiryaq Arba with lukewarm water is generally advised. Unani scholars stated that the efficiency of “Tiryaq Arba” remains until two years. However, they have not mentioned the temperature and condition of storage where it can be stored up to 2 years.

Actions and Indications of Usage of “Tiryaq Arba”

Unani scholars, including Ibne Sina and Akbar Arzani advised its usage in a variety of conditions such as a toxic bite from a snake, scorpion, spider, and other poisonous inmates, epilepsy, paralysis, and diseases where the predominance of coldness and phlegmatic humour exists. It also improves the functions of the liver and spleen. It is also used as abortifacient and helps in the delivery of a child. It is also used in intestinal obstruction. The following actions of Tiryaq Arba are mentioned in Unani literature such as antidote, deobstruent, antispasmodic, diuretic. Murr maki (Commiphora myrrha) is said to relieve palpitation.

Adverse Effects and Corrective

The headache could be the side effect of using Tiryaq Arba. Purslane Seeds is mentioned as corrective to its side effects.

Conclusions

Unani physicians were aware of the concept of epidemics related to respiratory infections. Therefore, they formulated certain Unani preparations such as “TiryAQ Arba” to prevent and manage a rapidly contagious form of respiratory infections. Constituents of “TiryAQ Arba” have substantiated for their effectiveness against respiratory viruses, which spread in epidemic form, besides of its immune-modulatory and antioxidant potential. Even though with these enormous benefits of “TiryAQ Arba”, plausibly needed in the current situation of COVID-19, this Unani medicine lacks limelight and scientific experimentation and should be researched for its benefits in managing epidemics of acute respiratory viral infections for the greater good of the society and mankind.

REFERENCES:

1. **Watts S.** Epidemics and history: Disease power and imperialism. New haven, Conn: Yale University press; 1997.
2. **Ruffer MA, Ferguson AR.** Note on an eruption resembling that of variola in the skin of a mummy of the twentieth Dynasty (1200-1100 B.C). J Patho Bacterial 1911; 15:1-4p.
3. **Temkin O.** Hippocrates in a world of Pagans and Christians. Baltimore, Md: John Hopkins University press: 1991.
4. **Adams F.** The genuine works of Hippocrates, Francis Adams Translation. Baltimore, Md: Williams and Wilkins; 1939.
5. **Sigerist HE.** The great Doctors. New York: WW Norton and company: 1933.
6. **Perlman S.** Another Decade, another Coronavirus. N Engl J Med. 2020.
7. **Wang C, Horby PW, Hayden FG, Gao GF.** A novel coronavirus outbreak of global health concern. Lancet. 2020.
8. **Fauci AS, Kasper DL,** Harrison's Principles of Internal Medicine. 20th ed. New York: McGraw Hill education, 2019; 535.
9. **Vellingiri B, Jayaramayya K, Iyer M.** COVID-19: A promising cure for the global panic. Science of the Total Environment, 2020 Apr 4: 138277
10. **Cortegiani A, Ingoglia G,** A systematic review on the efficacy and safety of chloroquine for the treatment of COVID-19. Journal of critical care, 2020 Mar 10.
11. **Kakodkar P, Kaka N, Baig MN.** A Comprehensive Literature Review on the Clinical Presentation, and Management of the Pandemic Coronavirus Disease 2019 (COVID-19). Cureus, 2020 Apr; 12(4).
12. **Rocklov J, Sjodin H, Wilder-Smith A.** COVID-19 outbreak on the Diamond Princess cruise ship: estimating the epidemic potential and effectiveness of public health countermeasures. Journal of travel medicine, 2020 Feb 28.
13. **Li G, Fan Y, Lai Y,** Coronavirus infections and immune responses. Journal of medical virology, 2020 Apr; 92(4):424-32.
14. **Misra DP, Agarwal V, Gasparyan AY, Zimba O.** Rheumatologists' perspective on coronavirus disease 19 (COVID- and potential therapeutic targets. Clinical Rheumatology, 2020 Apr 10: 1.

15. **Khan MA.** Al-Akseer (Urdu translation by kabeeruddin M). Vol 2. New Delhi: Ejaz publicationhouse, 2003; 916- 20.
16. **Peeri NC, Shrestha N,** The SARS, MARS and novel coronavirus (COVID-19) epidemics. The newest and biggest global health threats: what lessons have we learned? International journal of epidemiology, 2020; feb 22.
17. <https://www.google.com/search?q=corona+virus+image&rlz=1C1EXJR>
18. **Kabiruddin HM.** Hummiyat-e-Qanoon NewDelhi: CCRUM, 2009.
19. **Razi Z, Kitab al-Hawi,** Central Council for Research in Unani Medicine, New Delhi, 2008; pp.309-318.
20. **Samarqandi N,** Al-asbab wa-Alam'at (Kabiruddin Urdu translation), Aijaz Publishing house, New Delhi, 2007; pp. 499- 506.
21. **Ober WB, Aloush N,** The plague at Granada, 1348- 1349: Ibn AlKhatib and ideas of contagion, Bulletin of the New York Academy of Medicine, 1982; 58(4):418–424
22. **Ibn Sina.** Al Qanoon fil Tib. (Urdu translation by Kantoori GH). New Delhi: Idara Kitabul Shifa; 2007.327, 1205-07.
23. **Jurjani I,** Zakheera Khawarzam Shahi. (Urdu translation by Khan HH). Vol 5. New Delhi: Idara Kitabush Shifa; 2010. 93-5p.
24. **Majusi AIA.** Kamilus Sanaa. Vol.2. New Delhi: Idara Kitabush Shifa; 2010.18- 84,172, 226,245-47,450- 57p.[file:///B asavarah % 20 S % 20 B a g l i % 20 Thesis % 20 final.pdf](file:///B%20asavarah%20S%20Bagli%20Thesis%20final.pdf)
25. **Arzani, M. Akbar.** Tibb-e-akbar (Urdu translation by hakeem M. Hussain), IdaraKitab-u- Shifa, Kucha Chalan New Delhi, P.6 72-74.
26. **Sahin AR, Erdogan A,** 2019 Novel Coronavirus(COVID-19) Outbreak: A Review of the Current Literature. EJMO, 2020;4(1): 1-7.
27. **Ismail J.** Vol. 5. New Delhi: Kitab al Shifa; 2010. Zakhira khwarzam Shahi; p. 94.
28. **Kabeeruddin M.** Lahore: Siddiqui Publications;1921. Bayaze Kabeer; p. 12. 36.
29. **Hakeem Azam Khan,** Mukhzan ul mujarribat; (anUrdu translation known as Qarabadeene Azam by Maulvi Azmat Ali Hasrat Lucknawi):Azaj publication house: New Delhi:1996:25.
30. **Jeelani G.** Makhzanul Murakkabaat. New Delhi: Aijaz Publishing House;1995:27.
31. **Arzani A.,** Qarabadeen Qadri, Aijaz publishing house, New Delhi, 1998; pp. 511. 11
32. Anonymous, National Formulary of Unani Medicine, Ministry of Health and Family Welfare, Dept. of AYUSH, New Delhi, part (1):154.
33. <https://www.google.com/search?q=tiryaaq+e+ arba+images&tbm=isch&ved>
34. **A.A. Khan, F. Bashir, J. Akhtar.** Tiryaaq e arba: Aclassical Unani Formulation to boost immunity. Journal of Drug Delivery & Therapeutics. ISSN: 2250-1177 .2020; 10(4-s):259-263.
35. **Ibn Sina.** Al Qanoon fit Tib (Urdu Translation by Kantoori GH). Vol.1-5. New Delhi: Idara Kitab ush-Shifa; YNM: 1464.
36. National formulary of unani medicine, part-1, first reprint, GOI. Ministry of Health and Family Welfare, dept of AYUSH, New Delhi: CCRUM; 2006: 154. 80.

37. **Arzani A.** Qarabadeene Quadri. Aijaz publishing house: New Delhi : 1998: 511. 81.
38. **Khan MS.** Bayaze khaas al Maroof Ilajul Amraaz (Urdu translat Hyderabad: ion by Kabeeruddin M). Aezaj publishing house: New Delhi:2006:796.
39. **Kabeeruddin M.** Bayaze Kabir.Vol.2. 15th Edition; Hikmat book depot: Hyderabad 1977- 78:16.
40. **Arzani A, Meezan ul Tib** (Urdu), 1st Edition: pp-178-81,756. 13.
41. **Kabeeruddin HM,** Al Qarabadeen, Central Council for Research in Unani Medicine, New Delhi, 2006; pp-1212.
42. **Kabeeruddin HM,** Al Qarabadeen-Volume II, Malik son's publishers, Faisalabad, YNM; pp-413
43. **Kabeeruddin HM,** Sharah Asbab-Volume III, Shaukat Book Depot, Gujrat, YNM; pp-180-186
44. **Jurjani A,** Zakhira Khwarzam Shahi (Hadi Husain Khan Urdu Translation), Munshi Nawal Kishore, Lucknow, 1878; 3(10): 1796.
45. **Anonymous,** Essential Drugs List-Unani Medicine,Ministry of AYUSH, New Delhi, 2013; pp. 2-4
46. Accessed from Bay (Laurus nobilis) Garden guides <http://www.gardenguides.com/442-nay-laurus-nobilis.html>)
47. **Colonel K.R.Kirtikar.** Indian medicinal plants with illustration. 2nd Edition. Vol-9. Deharadun: oriental enterprises; 2003:2927-2930.
48. Accessed from Jain and Gupta, 1962; Bhat et al.,1974 www.himalayahealthcare.com/pdf_files/cystone008.pdf cited on 2012 April 24
49. **Kabeeruddin M.** Mukhzunal Mufradat. Tibbiyacollege Delhi. 163.
50. Accessed from <http://envis.frilht.org/trade> , Cited on 2012 Jan 23.
51. **Kabeeruddin M.** Kulliyate Qanoon (Urdu Translation) Vol.1. New Delhi: Aijaz Publishing House; 2007: 20-56.
52. **Kabeeruddin M. Mukhzunal Mufradat.** Faisal publications: New Delhi: 2000: 225.