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A REVIEW ON *HABB-E-HINDI ZEEQI* (TRADITIONAL UNANI FORMULATION) AND THEIR THERAPEUTIC IMPORTANCE IN *ZEEQUN NAFAS* (BRONCHIAL ASTHMA)

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Abstract

The *Habb-e-Hindi Zeeqi* is a very common preparation of unani pharmaceuticals that are usually used in the management of *Zeequn Nafas* (bronchial asthma). It is composed of *Beesh* (*Aconitum chasmanthum*), *Post-e-Bekh Madar* (*Calotropis procera*), and *Aab-e-Adrak* (*Zingiber officinale*) that act as *Muhallil* (anti-inflammatory), *Mukhaddir* (anesthetics), *Daf-i-Tasannuj* (antispasmodics), *Mushil* (purgative), *Munaffis-i-Balgham* (expectorant), *Mukhrij-i-Balgham* (phlegmagogue), and *Hadim* (digestive). The information on *Habb-e-Hindi Zeeqi* was gathered from PubMed, MedLine, Scopus, the Web of Science, Science Direct, Springer, De Gruyter, and MedNow by searching for the keywords '*Zeequn Nafas*,' '*Dama*,' '*Bronchial Asthma*,' '*Habb*,' '*Habb-e-Hindi Zeeqi*,' '*Calotropis procera*,' '*Aconitum chasmanthum*,'. The information was also aggregated from Unani books published in different languages, viz. Urdu, English, and Persian. In unani medicine *Habb-e-Hindi Zeeqi* are used primarily in the management of respiratory tract disorders specifically in the control of *Zeequn Nafas*. Studies of ingredients showed antispasmodic, analgesic, anti-inflammatory, and antioxidant activities. Information concerning the preclinical, clinical, physicochemical standardization and ethno-medical properties of *Habb-e-Hindi Zeeqi* is insufficient and scattered. In this article, the authors try to compile all the information they can find regarding *Habb-e-Hindi Zeeqi* and its ingredient. Also, it gives a brief overview of the therapeutic importance of this formulation in the control and management of *Zeequn Nafas*.

Keyword: *Habb-e-Hindi Zeeqi*, *Zeequn Nafas*, Bronchial Asthma, Unani,

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1. Introduction

The framework of the Unani system of medicine is composed of seven essential factors, which are collectively known as *Umoore Tabaiyah*. These factors are the basic needs of human viability, and they include things like *Arkan* (elements), *Mizaj* (temperament), *Akhlat* (humours), *Aaza* (organs), *Arwah* (pneuma or vital spirit), *Quwa* (faculties or powers), and *Afal* (function). The four primary substances of the body are known as the *Arkan: Nar* (fire), *Baad* (air), *Maa* (water), and *Arz* (soil). The *Rukn*, the singular form of *Arkan*, was associated with *Kaifiyat* (quality) and existed in the world alongside *Kaifiyat faila* (*Hararat* and *Burudat*) and *Kaifiyat munfaila* (*Ratubat* and *Yabusat*). Each *Rukn* bears one of two *Kaifiyat faila* and one of two *Kaifiyat Munfaila*, so that *Rukn Nar* possesses *Hararat* and *Yabusat*, *Rukn Baad* possesses *Hararat* and *Ratubat*, *Rukn Maa* possesses *Barudat* and *Ratubat*, and finally, *Rukn Arz* possesses *Barudat* and *Yabusat*. After external mixing, one or more *Rukn* react to form new *Kaifiyat* (qualities), known as *Mizaj* (temperaments). All entities in the world have their own specific *Mizaj*, including natural drugs of all categories, viz., *Nabatat* (plants), *Haiwanat* (animals), and *Zamadat* (minerals). *Akhlat* are body fluids that are formed after digestion and metabolism of food in the liver, viz., *Dam* (blood), *Balgham* (phlegm), *Safra* (yellow bile), and *Sauda* (black bile), with their specific *Mizaj* like *Harratab*, *Baridratab*, *Haryabis*, and *Baridyabis*, respectively. A Unani scholar named Hippocrates' purposed humour theory states that "health is a state of equilibrium between all *Akhlat* in terms of *Kaifiyat* (quality) and *Kimiyat* (quantity), and disease is the reciprocal of it." As a result, all *amrad* (diseases) were classified into four humours in the Unani System of Medicine (USM) and treated with *Ilaj bil-Zid* (Hetrotherapy), such as *Amrad-i-Baridratab* treated with the *Haryabis* manoeuvre. The temperament of the subject used to diagnose and choose natural remedies for treatment in disease states is contrary to nature [2]. The therapeutic regimen in USM is classified into *Ilaj bil-Tadabir* (Regimenal therapy), *Ilaj Bil-Ghidha* (Dietotherapy), *Ilaj bil-Dawa* (pharmacotherapy), and *Ilaj bil-Yad* (surgery). *Ilaj bil-Zid* [3] is the guiding principle of all approaches in USM. Since antiquity, pharmacotherapy has included numerous *mufrad* (single drugs) as well as *murakkab* (compound formulations) such as *Habb* (tablet), *Majoon*, *Itrifal*, *Lauq*, *Jawarish*, and *Khamira* to successfully prevent and reverse the *Sue-i-Mizaj* (Amrad) in

USM [4, 5]. Unani medicines are used in different dosage forms in order to yield the desired results, moderate the potency, increase the efficacy, and detoxify the harmful effects of drugs so as to eliminate any of their side effects.

Habb (tablet) is a solid Unani dosage form that has been used since ancient times to prepare specific ingredients of compound formulations, such as *Samag Arabi*, *Luab Katan*, and *Kateera* [6]. *Habb* is a commonly used compound formulation with a solid consistency [7]. *Habb-e-Hindi Zeequi* (HHZ) is a popular composition that is used to reverse the pathogenesis of *Zeequn Nafas* (bronchial asthma). The ingredients of HHZ are also used in several other disorders, viz. *Quba* (Ringworm), *Safa* (Alopecia), *Bawaseer* (Pile), *Waja Al-Mafasil* (Joint Pain), *Istisqa* (Ascitis), *Baras* (Leuckoderma), *Aatshak* (Syphilis), *Zujam* (Leprosy), *Haiza* (Cholera), *Humma* (Fever), *Zat-al-Zinbe* (Bronchitis), *Saqeeqa* (Migrane), *Asaba* (Eyebro Pain), *Irqunnisa* (Sciatica), *Zuf-i-Bah* (Weak Sexual Function), *Ihtibas-i-Tams* (Amenorrhea), *Dard-i-Mida* (Stomach), *Zuf-i-Istiha* (Anorexia), *Zuf-i-Mida* (Weak Stomach), *Nisyan* (Amnesia), and *Sailanu-al-Raham* (Leuckorrhoea) [7]. The authors attempted to compile all traditional and scientific information related to HHZ in terms of ethnopharmacology of content, method of preparation, standardization, and therapeutic importance in *Zeequn Nafas* as mentioned in authentic classical text books in this paper.

2. Methodology

HHZ is a very famous unani composition. HHZ-related literature was gathered by searching online databases such as PubMed, Medline Science Direct, Scopus, Elsevier, Research Get, Google Scholar, Biomed, and Springer-Verlag. The typical textbook of Unani Medicine also produces valuable data, viz. *Khazain-Al-Advia*, *Muhit-i-Azam*, *Makhzan-Al-Mufradat*, *Qarabadin Najm-Al-Ghani*, *Bustan-Al-Mufradat*, *Qarabadin-i-A'zam*, *Kitab Al-fath fi Al-Tadawi*, *Qarabadin-i-Kabir*, *Qarabadin-i-Majeedi*, *Bayaz Khas*, *Usool al-Tib*, the National Formulary of Unani Medicine, and the Hamdard Pharmacopoei [2-9] The botanical books, viz., *Compendium of Indian Medicinal Plants*, *Flora Medica*, *Indian Materia Medica*, *Indian Medicinal Plants*, *Handbook of Medicinal Herbs*, and *Glossary of Indian Medicinal Plants*, also described the properties of herbs used in HHZ. The keywords that were used were *Habb*,

Habb-e-Hindi Zeequi, *Beesh*, *Post Bek-e-Madar*, *Aab-e-Adrak*, *Ethenobotanical*, *Aconitum chasmanthum*, *Calotropis procera*, and *Zingiber officinale* [7].

3. Results and discussion

3.1. Ingredients and preparation of *Habb-e-Hindi Zeequi*

Habb-e-Hindi Zeequi is composed of *Beesh* (*Aconitum chasmanthum*), *Post-e-Bekh Madar* (*Calotropis procera*), and *Aab-e-Adrak* (*Zingiber officinale*) [7]. All the ingredients in HHZ are collected according to their pharmaceutical quality. The *Beesh* is broken into small pieces and put into a fine, clean cloth bag. This bag, after being tied, was placed in a milk containing vessel in such a manner that it was completely immersed and hanged in the centre without touching the bottle wall. The vessels are then heated to completely evaporate the water content of the milk. The bag is removed from the vessels, opened, and pieces are removed and washed with fresh water to obtain detoxified *beesh*. Powders of detoxifying *Beesh* and *Post-e-Bekh Madar* were prepared by crushing and filtering through sieve number 40 separately. The rest of the drug was ground and filtered separately through sieve number 80 to create a fine powder. Both drugs slowly mix in *Aab-e-Adrakh* until they are absorbed. Following that, 10% powdered by weight *Samagh-e-Arabi* is added to this mixture, which is then kneaded by a kneading machine to form a semisolid mass, which is then granulated by a mechanical granulator. To obtain the 125 mg, dry the granules at a low temperature and manually prepare the pills [8].

3.2. Ingredients of *Habb-e-Hindi Zeequi* and their scientific name [7]

The *Habb-e-Hindi* was a compound formulation that contained three single unani drugs mentioned in NFUM. Table no. 1 lists the individual content, scientific name, and quantity of each single drug found in HHZ.

Table No. 01: Ingredients, their scientific name and quantity of each single drug present in *Habb-e-Hindi Zeequi* [8]

S. No.	Common Name	Scientific Names	Part	Quantity
1.	<i>Beesh</i>	<i>Aconitum chasmanthum</i>	Root	15gm
2.	<i>Post-e-Bekh Madar</i>	<i>Calotropis procera.</i>	Root bark	30gm
3.	<i>Aab-e-Adrak</i>	<i>Zingiber officinale</i>	Juice of rhizome	3 liter

3.3. Mizaj (temperament) calculation of *Habb-e-Hindi Zeequi*

Mizaj is one of the important and essential factors of the Unani System of Medicine. All single and compound formulations possess their specific *Mizaj*, viz., *Haryabis* (hot and dry) , *Harratab* (hot and moist), *Baridyabis* (cold and dry), and *Baridratab* (cold and moist). All Mizaj classes have four stages (Darzat), namely stages 1, 2, 3, and 4. The prescription of compound formulations in the Unani System of Medicine is based on their Mizaj, which is contradictory (opposite) to the *Mizaj* of disease [2]. As a result, *Haryabis* compounds are used to treat *Baridratab* disease and vice versa. The authors also calculated the types and stages of the Mizaj of *Habb-e-Hindi Zeequi*, which is mentioned in Table 2 [9, 10, 11, 12, 13, 14, 15].

Table 02: Calculation of *Mizaj* (temperament):

S.No	Drugs name	Stages of Mizaj	Weight (W)	D = W/150	Hararat (H)	Barudat (B)	Yabusat (Y)	Ratubat (R)
					H x D	B x D	Y x D	R x D
1	<i>Beesh</i>	<i>Har Yabis</i> (4,4)	15gm	1	4x1=4	0x1=0	4x1=4	0x1=0
2	<i>Post-e-Bekh Madar</i>	<i>Har Yabis</i> (3,3)	30gm	2	3x2=6	0x2=0	3x2=6	0x2=0
3	<i>Aab-e-Adrak</i>	<i>Har Yabis</i> (3,1)	30gm	2	3x2=6	0x2=0	1x2=2	0x2=0
	Total of Drug dose			D _T =5gm	H _T = 5gm	B _T = 0gm	Y _T = 5gm	R _T = 0gm
	Total Dose x temperament				DH _T = 16	DB _T = 0	DY _T = 12	DR _T = 0

Where W is indicted total weight in gram, D is indicated drug dose in proportion, H_T indicated Total of Hot Drug dose, B_T is total of Cold Drug dose, R_T indicated total of Ratab Drug dose, Y_T indicated total of Yabis Drug dose, DH_T is indicated total Dose x temperament of hot drugs, DB_T is indicated total Dose x temperament of cold drugs, DY_T is indicated total Dose x temperament of Yabis drugs and DR_T is indicated total Dose x temperament of Ratab drugs

1) Mathematical calculation of *Hararat* and *Barudat* in *Habb-e-Hindi Zeequi*:

Total dose of Hot Drug (H_T) = 5 gm

Total dose of Cold Drug (B_T) = 0 gm

Difference of between Hot and Cold (D_{HB}) = $H_T - B_T$

$$= 5 - 0s$$

$$= 5 \text{ (Where } H_T \text{ indicates Hotness or } \textit{Hararat} \text{ predominant)}$$

Total Dose x temperament of Hot drugs (DH_T) = 16

Total Dose x temperament of Cold drugs (DB_T) = 0

Difference of both (D_{HBT}) = $DH_T - DB_T$

$$= 16 - 0$$

$$= 16$$

Calculation of net *Mizaj* of *Murakkab* = Difference of total of Hot drugs (Dose x temperament) / Difference of Total of Drug dose

$$= D_{HBT} / D_{HB}$$

$$= 16/5$$

$$= (3.2 \pm 1) \text{ Hot or } \textit{Hararat}$$

2) Mathematical calculation of *Yabusat* and *Ratubat* in *Habb-e-Hindi Zeequi*:

Total dose of *Yabis* Drug (Y_T) = 5 gm

Total dose of *Ratab* Drug (R_T) = 0 gm

$$\begin{aligned} \text{Difference of between Yabis and Ratab (D}_{YR}) &= Y_T - R_T \\ &= 5 - 0 \\ &= 5 \text{ (Yabis)} \end{aligned}$$

$$\text{Total Dose x temperament of Yabis drugs (D}_{Y_T}) = 12$$

$$\text{Total Dose x temperament of Ratab drugs (D}_{R_T}) = 0$$

$$\begin{aligned} \text{Difference of both (D}_{YRT}) &= D_{Y_T} - D_{R_T} \\ &= 12 - 0 \\ &= 12 \end{aligned}$$

Calculation of net *Mizaj* of *Murakkab* = Difference of total of *Yabis* drugs

$$\begin{aligned} &(\text{Dose x temperament}) / \text{Difference of Total of Drug dose} \\ &= D_{YRT} / D_{YR} \\ &= 12 / 5 \\ &= (2.4 \pm 1) \text{ Dry or Yabusat} \end{aligned}$$

Therefore, calculated *Mizaj* of *Habb-e-Hindi Zeequi* is *Har yabis* (Hot-Dry) (3.2±1, 2.4±1)

Table 03. Resultant *Mizaj* of *Habb-e-Hindi Zeequi* and their degrees

<i>Mizaj</i> of <i>Habb-e-Hindi Zeequi</i>	
<i>Har</i> (Hot)	<i>Yabis</i> (Dry)
3.2±1	2.4±1
Hot-Dry (3.2±1, 2.4±1)	

Action of *Habb-e-Hindi Zeequi*: *Munaffis-e-Balgham* (Expectorant), and *Daf-e-Tashannuj* (Antispasmodic)

Dose of *Habb-e-Hindi Zeequi*: 125 -250 mg per Day

Route of administration of *Habb-e-Hindi Zeequi*: Orally with water

3.4 Description of *Habb-e-Hindi Zeequi*

Beesh (*Aconitum chasmanthum*):

Aconitum chasmanthum is a poisonous plant, but it possesses high medicinal value and is used in several traditional medicines, including Unani medicine. The rhizomes are the most useful part of this plant in unani medicine, and they must be detoxified before use. This plant's *Mizaj* (temperament) is *Haaryabis*, which falls into the fourth category. It has several properties mentioned in literature, viz., *Daf-e-Humma* (antipyretics), *Musakin-e-Waja* (analgesic), *Muqami Mukhaddir* (local anaesthetics), *Mudir-e-Bul* (diuretics), and *Mudir-e-Tams* (emmenagogue). Unani physician prescribes the above-mentioned medicinal plant for several ailments, including: *Humma* (fever), *Dhat-al-Janb* (pleurisy), *Shaqiqa* (migraine), *Asaba* (eyebrow pain), *Irq al-Nasa* (sciatica), *Zuf-e-Bah*, *Ihtibas al-Tams* (amenorrhoea), *Juzam* (leprosy), *Baras* (leucoderma), *Zeequn Nafas* (bronchial asthma), and *Qarah Khabeesha* (Non-healing Ulcer) [11,14,16]. Several studies done on *Beesh* showed that this plant has numerous pharmacological substances, viz. aconitine, mesaconitine, hypaconitine, chasmaconitine, chasmanthinine, heteratisine, chasmanine, homochasmaconitine, heterophyllisine, neoline, and homochasmanine [17,18,19,20,21,22] that produce varieties of therapeutic activity, viz., antiapoptosis, anticarcinogen, antiaging, anti-inflammation, anti-atherosclerosis, and improvement of endothelial function. The venomous nature of beesh causes a variety of adverse reactions in humans and animals, including nausea, pulse weakness, diarrhea, respiratory paralysis, and heart damage [23].

Post-e-Bekh Madar (Calotropis procera)

Calotropis procera (*Madar*) is popular plant that is widely distributed, including in India. All parts of this plant are used by unani physicians, like beekh (roots bark), barg (leaves), phool (flower), and latex (milk). This plant's *Mizaj* (temperament) is known as *Haaryabis* in the third category. In Unani pharmacology, the *Bekh* (Root) of this plant is *Musakkin* (analgesic), *Muhallil* (analgesic), *Muanaffis* (expectorant), *Mushil* (purgatives), *Muqawwi-e-Bah* (diaphoretics), *Muqi* (emetics), and *Isqat Hamal* (abortifacient). Based on

these functions, the scholars of Unani use them in different disorders, viz., *Waja al-Mafasil* (arthritis), *Waja al-Kan* (otalgia), *Quruh Khabeesha* (non-healing ulcer), *Zuf-i-Mida* (weak stomach), *Zuf-i-Hazam* (indigestion), *Sual* (cough), *Zeequn Nafas* (bronchial asthma), and *Aatshak* (syphilis), *Nuqras* (Gout), *Zujam* (Leprosy), *Haiza* (Cholera), *Bawaseer* (Pile), *Istisqa* (Ascitis), *Tasannuj* (Spasm), and *Faliz* (Paralysis) [11,14,16]. Benzoylinesolone, Benzoylisolinolone, Calotropoleanyl Ester, Procerleanol A and B, Cardiac Glycosides Calotropogenin, Calotropin, Uscharin, Calotoxin, Calactin, Cardenolides, and Anthocyanins are among the bioactive substances found in *Post-e-Bekh Madar* (Bark of Root) [24]. Analgesic, antitumor, antihelmintic, hepatoprotective, antioxidant, inflammatory, antidiarrheal, anticonvulsant, antimicrobial, oestrogenic, antinociceptive, and antimalarial activities have been demonstrated in scientific studies [25].

Aab-e-Adrak (Zingiber officinale)

Adrak is one of the most widely used medicinal rhizomes in the world. Wet *Adrak* has *Haaryabis* in third and first place, respectively. In Unani, this plant has *Hazim* (digestion), *Kasir-i-Riyah* (carminative), *Muqawwi Zahen* (nervine tonic), *Muqawwi-e-bah* (aphrodisiac), and *Qatil-i-Kram Shikam* (vermicidal). It is used in *Amraz-i-Balghami* (Phlegmagogue disease), *Amraz-i-Mida* (disease of the stomach), *Nafak Shikam* (flatulence), *Dard Shikam* (abdominal pain), *Zuf-i-Istiha* (anorexia), *Zuf-i-Mida* (weak stomach), *Nisyan* (amnesia), *Zuf-i-Bah* (loss of libido), *Sailan al-Rahem* (Leucorrhoea), and *Sual* (cough) [11,14,16]. Extracts of *Zingiber officinale* contain numerous biochemical substances, viz., essential oils, zingiberole, zingiberene, camphene, bisabolene, cineole, citral, geraniol, borneol, and limonene. Other substances of active nature are vitamin B6, vitamin C, proteins, mucilages, potassium, phosphorus, sulphur, and linoleic acid [26]. According to several studies, *Adrak* has anti-inflammatory, immunomodulatory, antioxidant, analgesic, antidiabetic, anti-cancer, nephroprotective, hepatoprotective, antimicrobial, and larvicidal properties [27,28,29,30,31,32].

Various parameters of physicochemical standardization of *Habb-e-Hindi Zeequi* and their standards values present are mentioned in table 06.

Table No. 06: Standardization of *Habb-e-Hindi Zeequi* [33]

S.No	Properties	Feature
1	Appearance	Tablet
2	Color	Cream
3	Smell	Ginger like
4	Taste	Burnig bitter
5	Alcohol soluble matter	2.96-3.20 %
6	Water Soluble Matter	28-28.5 %
7	Successive extractives	
	Pet. ether(60-80)	2.10-2.38 %
	Chloform	1.3-1.43 %
	Ethyl alcohol	6.67-7.54%
8	pH of 1% aq soln	5.05-5.06
9	pH of 10% aq soln	4.82-4.85
10	Loss in weight on drying at 105° C	9.14-11.44 %
11	Total ash	6.8-6.84%
12	Water soluble ash	1.82-1.90%
13	Acid soluble ash	1.86-1.92%

14	Volatile oils	0.30% v/w
15	Saponification value	154
16	Acid value	49.50
17	Alkaloids	0.60%
18	Tannins	0.05-0.06%
19	Crude fibre	3.57-3.63
20	Total nitrogen	0.64-0.68%
21	Sodium	4.23 mg/g
22	Calcium	12.5 mg/g
23	Potassium	87.75mg/g

Therapeutic importance of Habb-e-Hindi Zeequi in Zeequn Nafas (Bronchial Asthma)

Habb-e-Hindi Zeequi is traditional Unani formulation that has been prepared since antiquity by Unani physicians. *Zeequn Nafas* is a heterogeneous disease with chronic inflammation and an episodic history of wheezing, breathlessness, chest tightness, and cough that vary with time, intensity, and airflow limitation [34]. *Zeequn Nafas* is difficult to control with available conventional therapy in 5% of cases [35]. In Unani, drugs having the properties of *Mulattif*, *Mufateh*, *Muhallili*, *Mundij Balgham*, *Mushil Balgham*, *Tabreed*, *Munaqqi Sadar* (removed morbid matter from the chest), *Muqawwi Dimagh*, *Hadim*, and *Ta'adil Mizaj* [14, 36, 37] are used to control *Zeequn Nafas* [38]. *Habb-e-Hindi Zeequi* produces activities for *Munaffis-e-Balgham*, *Daf-e-Tasannuj*, and to be used in *Zeequn Nafas* [33]. Moreover, the content of this compound formulation also has the properties of *Mudir-i-Bul* (diuretics), *Musakkin* (analgesic), *Muhallil* (anti-inflammatory), *Muanaffis* (expectorant), *Mushil* (purgatives), *Muqi* (emetics), *Hazim* (digestion), *Kasir-i-Riyah* (carminative), and *Muqawwi Zehen*

(NervineTonic) [14,16,36]. Based on this pharmacological action this formulation used in respiratory tract disorder specially in *Zeequn Nafas*.

3.5 Studies done on Habb-e-Hindi Zeequi and Their Ingredients

Pre-Clinical Trial

Antioxidant

Kumar, VL et al. (2007) stated that dry latex of *Calotropis procera* at 100 and 400 mg/kg doses orally per day produced an antioxidant and hypoglycemic effect at a rate comparable to diabetes induced by [39].

Bellik Y. (2014) stated that essential oils of *Zingiber officinale* in doses of 0.87 to 869.2 mg/mL produce 12.1–80.53% radical scavenging activity in comparison with 7.5–69.3% for 0.08–0.6 mg/ml ascorbic acid [40].

Anti-inflammatory activity

Majumder PK and Kumar VL, (1997) stated that *Calotropis procera* extracts of petroleum ether, acetone, methanol, and aqueous solution exhibited anti-inflammatory activity in a carrageenan induced rat paw-oedema model but were more potent in acetone and aqueous extracts [41].

Choedon T et al., (2006) stated that the dry latex of *Calotropis procera* reduced inflammation by decreasing histamine, bradykinine, and PGE2 [42].

In rats, a chloroform extract of *Calotropis procera* root produced significant dose-dependent antiinflammatory function [43].

Chloroform and hydroalcoholic extracts of *Calotropis procera* showed significant reductions in inflammation in dose dependent manners between 200 and 400 mg/kg [44, 45].

Funk JK, (2016) et al. recommended that 28 mg/kg of ginger essential oil be administered intraperitoneally every day reduced joint chronic inflammation [46].

Essential oil ginger in different doses (viz. 100, 500, and 1000 mg/kg) reduced paw oedema in mice induced by carrageenan compared with 55.6% for 10 mg/kg diclofenac [47].

Jeena K et al., (2013) stated that the essential oil of ginger produced 500 mg/kg of analgesic activity in comparison with aspirin (10 mg/kg). This effect was caused by ginger oil's ability to inhibit arachidonic acid synthesis by inhibiting cyclooxygenase [47].

Immunomodulatory

Zhou HL et al. (2006) stated that 0.001–10 ng/ml ginger essential oil taken orally had significant inhibitory effects on T lymphocyte proliferation in mice [48]

Antipyretic activity

Dewan S. et al. (2000) stated that ethenolic extract of the aerial parts, aqueous extract of flowers, and aqueous solution of the dry latex of *Calotropis procera* produced significant hypothermic activity in animal models compared with aspirin [49].

Antinociceptive activity

Soares PM et al. stated that the latex of *Calotropis procera* used at 12.5 mg, 25 mg, and 50 mg/kg intraperitoneally had an antinociceptive effect [50].

Antiarthritic activity

Methanol extract in doses of 50 and 500 mg/kg and rofecoxib in doses of 20 and 100 mg/kg exhibited significant reductions in inflammation and arthritic changes induced by Freund's complete adjuvant (FCA) in rats [39].

Hepatoprotective activity

Roy S et al., (2005) stated that the dry latex of *Calotropis procera* in aqueous solutions in different doses of 5, 50, and 100 mg/kg orally daily inhibited liver enzymes, mediators of inflammation, and also necroinflammatory changes in the liver [51].

Anticonvulsant activity

Jalalpure SS (2009) stated that root extracts of chloroform and aqueous *Calotropis procera* were useful in absence seizures and tonic clonic seizures [52].

Spasmolytic activity

A study on Guinea pigs done by Ezekiel OI, (2005) using an aqueous extract of *Calotropis procera* in concentrations of 50, 100, and 200 µg/ml produced a spasmolytic effect on tracheal smooth muscle. [53].

Kumar and Shivkar, (2004) stated that dry latex of *Calotropis procera* in doses of 50 to 1000 mg/kg used orally in experimental rats produced effects on the smooth muscles of the gastrointestinal tract.[54].

Funk JL et al., (2014) stated that the essential oil of ginger has bronchodilator activity along with citral, eucalyptol, and camphor in rats with tracheal contraction induced by carbachol. It used α -adrenergic receptors to dilate the trachea [46].

Neuroprotective effective

Latex powder of *Calotropis procera* is reduced beta-amyloid fixation in the brain of a mouse results in the inhibition of early clinical features of dementia [55].

Clinical Trial

Ahmad J et al. (2014) performed a clinical trial on Zeequn Nafas by using Joshanda Zeequn Nafas (50 ml orally x BD) and Habbe Hindi Zeeqi (125 mg orally x BD) for 45 days. The result of such a study showed that highly significant changes occur in terms of subjective and objective parameters, especially FEV1 and PEF [56].

CP pre-treatment and administration at 100 mg/kg/day ($p < 0.05$) have resulted in substantial reductions in food consumption, increased body weight, and improved lipid profiles, liver enzymes, and kidney function tests [57].

Sritoomma N. (2014) performed a randomised controlled trial that included 140 subjects. In all subjects, they were randomly allocated into two groups, Swedish massage with ginger essential oil and Thai massage. For a period of five weeks, each group received a 30-minute massage twice a week. The results showed that Swedish massage with ginger essential oil produced a greater inhibition in back pain severity than Thai massage [58].

Yip YB, Tam AC (2008) performed a double blind placebo-controlled experimental study, on 59 subjects. All subjects were randomly divided into three groups placebo and control groups and received an aromatic oil massage with essential oils, an olive oil massage, and conventional treatments, respectively [59].

Conclusion

Habb-e-Hindi Zeequi has been a popular compound formulation of unani medicine since antiquity. Traditionally, this formulation was used to treat disorders of the respiratory system, viz., *Zeequn Nafas* (bronchil asthma). The ingredients of *Habb-e-Hindi Zeequi* have numerous pharmacological actions and therapeutic values that have been used in Unani medicine. Hence, based on single content activity, further research on *Habb-e-Hindi Zeequi* is required to validate its activity in *Zeequn Nafas* as well as to evaluate the new therapeutic indications in several disorders.

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Conflict of interest

None

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