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# A NARRATIVE STUDY ABOUT THE ROLE OF QURS ZARISHK AS UNANI FORMULATION IN MANAGEMENT OF HEPATIC INSUFFICIENCY AND ANEMIA WITH HYPOPROTEINAEMIA

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**Abstract:**

Diseases of the liver are common now due to various reasons including the use of junk food, adulteration of food items, sedentary and stressful life, etc. The liver is the main organ for the digestion of various food items and also produces various enzymes and hormones. The insufficiency of the liver and anemia with hypoproteinemia is a life-threatening condition and the cause lies in the liver. In modern medicine, there is no cure for these conditions and only supportive and supplement therapy is used to support the liver and to increase life expectancy. The supplement therapy is costly, needs repetitions, and may also cause side effects. In the Unani system of Medicine (USM), several drugs are available and used for liver diseases with success for centuries. Qurs Zarishk is a tablet form of compound formulation specifically used for liver insufficiency and anemia with hypoproteinemia in USM. This formulation has been used for centuries for its indications with success. This review aims to explore its therapeutic activity and uses on the basis of experimental studies on QZ as well as its ingredients to understand its indication.

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**Keywords:** Anemia with hypoproteinemia, liver insufficiency, Hepatoprotective, Qurs Zarishk, Zarishk, Unani.

## 1. Introduction:

Hepatic insufficiency, also known as liver insufficiency or liver failure, is a condition in which the liver is unable to function properly or adequately perform its essential metabolic, synthetic, and detoxification functions. The liver plays a crucial role in various physiological processes, and when it fails to function adequately, it can lead to serious health consequences. The symptoms of hepatic insufficiency can vary depending on the severity and the underlying cause but may include, jaundice, fatigue and weakness, edema, nausea and vomiting, ascites, itchy skin, and dark urine and pale stools (1).

Hypoproteinaemia is a common clinical indicator of liver cirrhosis. The protein synthesis and coagulating factors in liver is insufficient due to decline in number and function of the liver cells in liver cirrhosis (2). Hypoproteinaemia accelerates the hepatic insufficiency, decrease immunity, increases chances of infection, ascites and decrease in functions of the organs leading to sluggish prognosis and increased fatality rate. At present, the management of hypoproteinaemia is a challenge for many hepatologists. However, many problems like shortage of blood product resources, specific nutritional supplements, blood transfusion reaction hinders the effective management of hypoproteinaemia. Therefore, any alternative treatments are urgently needed to manage the anemia with hypoproteinaemia (AHP) (3).

The Unani System of Medicines (USM) have rich source of natural drugs available for various diseases of liver including liver insufficiency, liver cirrhosis, anemia with hypoproteinaemia (AHP) and other diseases of the liver. *Qurs Zarishk* (QZ) is an herbal formulation commonly used for its various health benefits. It is primarily composed of Zarishk (*Berberis aristata* D.C), which is the main ingredient and gives the formulation its name. QZ is known for its antimicrobial, anti-inflammatory, diuretic and antioxidant properties. It is often used in USM to treat liver problems, AHP, digestive disorders, and skin conditions. It is believed to have a cooling effect on the body and is used to balance the excess heat or *Khilt-i-Safra'* (bilious humour) in the body. The specific uses of QZ can vary depending on the individual and the practitioner's diagnosis. It is commonly used to alleviate symptoms such as jaundice, AHP, indigestion, diarrhea, abdominal pain, and skin rashes. Additionally, it may be used to support liver function and promote overall detoxification (4).

This review is proposed to explore the possible role of QZ in the management of liver insufficiency and AHP. The therapeutic actions and uses of the QZ will be explored with the help of various preclinical and other studies done on its ingredients along with their traditional uses.

## 2. Methodology

The information on QZ was extracted from using a variety of accessible bibliographic databases, electronic resources (PubMed, Science Direct, Springer, and Google Scholars), and classical literature from traditional books, by key word of Qurs Zarishk, Zarishk, Rewand Chini, Gul-e-

Surkh, Maghz-e-Tukhm-e-Khiyarain, Sandal Safaid, Tukhm-e-Kasni, Luk Maghsool, Asl-us-Soos, Gul-e-Nilofar, Tabasheer, and botanical names i.e., *Berberis aristata*, *Rheum emodi, Rosa damascena, Cucumis sativus, Cucumis utilissimus, Santalum album, Cichorium intybus, Coccus lacca, Glycyrrhiza glabra, Nymphaea alba,* and *Bambusa bambos;* the name of diseases i.e., hepatic insufficiency and AHP. Additionally, offline journals were also searched in the NRIUMSD Hyderabad library including the Hippocratic Journal of Unani Medicine, and Indian Journal of Unani Medicine etc. The detail about the QZ, and its ingredients has been surveyed from different classical books of USM.

## 3. Results and Discussion

According to Unani classics the condition in which an impairment takes place in the *Mizāj* (temperament) and *Quwwat Mughayyira* (transformative faculty) of the liver is called as *Sū'al-Qinya* because it occurs prior to locally or generalized edema of the body. *Sū'al-Qinya* is defined as derangement of the *Mizāj*(temperament) of liver which makes it unable to form normal blood and leads to ascites. The sign and symptoms includes, body colour change, puffiness of the body, weakened digestion, loss of appetite, sleep disturbance, irregular bowels, flatulence, reduced healing process and fatigue. This disease is the result of either hepatic insufficiency or due to other diseases. It is similar to anaemia with hypoproteinaemia (5,6,7).

*Sū'al-Qinya* is combination of two Arabic words '*Sū*' and '*Qinya,* where "*Sū*" mean defect and '*Qinya*' or '*Quniya*' means treasure or precious possession. The term *Sū'al-Qinya*, means defect in the asset of the body respectively since blood is supposed to be the most important asset of the body; therefore *Sū'al-Qinya* is a disorder in which the blood becomes defected. The terms *Faqr al-Dam*, *Qillat al-Dam* and *Fasād al-Dam* are used as synonymous for *Sū'al-Qinya*. It is the condition in which there is decrease in the amount of blood and alteration in its constituents. Also, there is decrease in the number of *Kurayyāt Hamrā'* (red blood corpuscles), *Kurayyāt Baydā'* (white blood corpuscles) and *Safīhāt Damwiyya* (platelets) and water is increased(8).

*Ismā'īl Jurjānī*, in his book *Dhakhīra Khawārizm Shāhī*,described that *Sū'al-Qinya* is a condition in which liver becomes functionally weak, leading to alterations in the temperament, deterioration of the whole body, mimicking *Istisqā' Lahmī* (anasarca)(9,10). *Majūsī* (10th AD), in his book *Kāmil-al-Sanā* wrote, disability of blood formation is either due to impairment of the liver, when the digested nutrient of food could not be transferred into blood or any impairment of the stomach. He also said that excessive bleeding is the main cause of reduced blood formation (10). According to *Rabban Tabri* (810-895 AD), liver is the reservoir of blood and if excessive bleeding occurs in menses, the blood supply to the liver decreases and its functions deranges (11).

As Ibn Sina says, physiologically *Quwwat Mughayyira* (transformative faculty) found in the liver performs functions by which the whole body is got benefitted. During metabolism, processes, production of energy and transformed major constituents of blood takes place in the liver. This pattern becomes weak and altered due to chronic inflammatory conditions, fevers, infections, which effect digestive system and four stages of digestion i.e., *Hadm Mi'dī* (first digestion/ alimentary digestion/chyme formation), *Hadm Kabidī* (hepatic digestion/chyle formation), *Hadm*

*'Uruqī* (tertiary digestion/vascular digestion)and *Hadm 'Udwi* (fourth digestion/organic digestion)and leads to insufficiency of blood in the body. Features of this condition like swelling of face, eyelids, upper arms, or whole body, lethargy, pallor, decreased appetite, gingivitis, alternate diarrhea, constipation, disturbed or deep sleep, psychogenic disorders are noticeable. Constant blood loss in diseases like Menorrhagia, bleeding piles are responsible for this condition (7,12).

### 3.1 The Composition of *Qurs Zarishk*(QZ)

QZ is made up of ten ingredients in different concentrations. The main therapeutic actions of the formulation are *Muqawwi-i-Kabid* (hepatotonic), *Muhallil Waram* (resolvent of inflammation) and *Mudirr-i-Bawl* (diuretic) and it its therapeutic uses are *Du'f al-Kabid* (hepatic insufficiency) and *Sū'al-Qinya* **(**anemia with hypoproteinaemia) as per Unani literature. The dose mentioned is 5-10 gm per day. The composition is given in the following table (4).

| S. No | Name of the Drug | Scientific Name | Part used | Quantity in gm |
|---|---|---|---|---|
| 1. | Zarishk | *Berberis aristata* D.C | Fruits | 8 parts |
| 2. | Rewand Chini | *Rheum emodi* Wall. | Rhizome | 2 parts |
| 3. | Gul-e-Surkh | *Rosa damascena* Mill. | Flower | 2 parts |
| 4. | Maghz-e-Tukhm-e-Khiyarain | *Cucumis sativus* L. & *Cucumis utilissimus* Roxb. | Seeds kernel | 2 parts |
| 5. | Sandal Safaid | *Santalum album* L. | Wood powder | 2 parts |
| 6. | Tukhm-e-Kasni | *Cichorium intybus* L. | Seeds | 2 parts |
| 7. | Luk Maghsool | *Coccus lacca* | Resinous secretion | 1 part |
| 8. | Asl-us-Soos | *Glycyrrhiza glabra* L. | Root | 1 part |
| 9. | Gul-e-Nilofar | *Nymphaea alba* L. | Flower | 1 part |
| 10. | Tabasheer | *Bambusa bambos* (L.) Voss. | Bamboo Manna | 1 part |

### 3.2 The medicinal properties of the ingredients of QZ.

#### 3.2.1 ZARISHK (*Berberis aristata* D.C)

It is commonly known as Indian Barberry or Daruharidra. It is a fruit of a thorny plant which is smaller than the Kishmish (dry fruit of *Vitis vinifera* L.), reddish black and sour in taste. The dry extract of the wood of the plant *Berberis aristata* is known as Rasot in USM and used for the management of various diseases (13-14).

The *Mizāj* (temperament) of Zarishk is *Bārid Yābis* (Cold&dry**)** in second degree. Its *Miqdar-i Khurak* (dose) is 3-5 gm.Zarishk is harmful for the people having *Balghami al-Mizāj* (phlegmatic temperament).*Muslih* (corrective) is used to reduce adverse effects/side effects or improve the drug's efficacy. Shakkar (sugar) and Qaranfal (*Eugenia caryophyllus* Bull.) may be used as a

corrective to neutralize the side effects of Zarishk. The *Badal* (substitute) of Zarishk are Zār-e-ward (*Rosa damascena* Mill.) and Sandal Safaid (*Santalum album* L.), the substitute has been used if the original drug is not available due to various reasons.(15-18)

### 3.2.1.1 Therapeutic actions and uses of Zarishk:

It is known for its actions e.g., *Muqawwi-i-Jigar* (hepatotonic), *Musakkin-i Safra* (neutralizing the heat of yellow bile), *Musakkin-i-Harārat Mida & Jigar* (neutralize the excessive heat in stomach and liver), *Musakkin-i Dam* (neutralizing the heat of blood), *Muqawwi-i-Qalb*(cardiotonic), *Muqawwi-i-Mi'da*(stomachic), *Musakkin-i-Atash* (neutralize the thirst), and *Qabid* (astringent). It is used to manage *Salaba al-Kabid* (cirrhosis of liver), *Humma Safrawwiya*(fever due to bile), *Ghasiyan* (nausea), *Qay'* (vomiting), *Ishal Safrawi* (purgation due to bile),and useful in all *Safrawi Amraz* (diseases due to derangement of bile) (15-18).

### 3.2.1.3 Pharmacological properties of *Berberis aristata* D.C:

Various studies have proved the following activities of the Zarishk e.g., Hepatoprotective (19-21), Antidiarrheal (22-23), Anti-PAF (platelet activating factor) activity (24),Cardiotonic (25-26), Antidiabetic (27-29), Anticancer (30-32), Anti-inflammatory (33), Antimicrobial (34-35), Antidepressant (36-37).

### 3.2.2 REWAND CHINI(*Rheum emodi* Wall.)

It is also known as Rhubarb, Himalayan Rhubarb. It is common in Sub-alpine Himalayas, from Kashmir to Sikkim at altitudes of 3300-5200 meter and also cultivated in Assam. Rhein,emodin, chrysophanol,emodin-3-monomethyl ether, aloe-emodin found in the root. The gallic acid and small amount of tannin, cinnamic and rheinolic acids, volatile oil, starch and calcium oxalate were also present in the root. Glycoside, Sennoside A and B, along with free anthraquinones also found (13-14).

The *Mizāj* (temperament) of Rewand Chini (*Rheum emodi* Wall.) is *Murakkabul Quwa* (different temperament), means it has two types of temperament which affects their action at different time and at different doses. The *Miqdar-i Khurak* (dose) of Rewand Chini is 1.5-2 gm for purgation and 125 mg to 375 mg to produce constipation. The Rewand Chini should not be used for purgation in weak person. Samagh Arabi (*Acacia Arabica* Willd.), Kateera (*Cochlospermum religiosum* L.), and Luab Behidana (*Cydonia oblonga* Mill.) may be used as a corrective to neutralize the side effects. Its *Badal* (substitute) is Gule surkh (*Rosa damascena* Mill.) in case it this drug is not available(15-18).

### 3.2.2.1 Therapeutic actions and uses of Rewand Chini:

Its actions are *Muharrik-i-Jigar* (liver stimulant), *Muqawwi-i-Mi'da* (stomachic), *Muqawwi-i-Badan* (immunity booster) in low dose, *Munaffith-i-Balgham* (expectorant), and *Qabid* (astringent). It is used in *Yaraqan Asfar* (jaundice), *Istisqa'* (ascites), *Waram al-Kabid*

(hepatitis)and *Waram al- Tihal* (splenitis), *Su'al-o-Surfa* (cough/bronchitis), *Zu'f al-Am'a'* (enteropathy), *Zu'f al-Mida* (weakness of stomach), *Nafkh-e Shikam* (flatulence) (15-18).

**3.2.2.3 Pharmacological properties:**

Various studies have proved the following activities of the Rewand Chini e.g., Cathartic (38-39), Anticancer (40), Hepatoprotective (41), Anti-inflammatory (42), Diabetic nephropathy (43), and Analgesic (44).

**3.2.3 GUL-E-SURKH** (*Rosa damascena* Mill.)

It is cultivated chiefly in central Uttar Pradesh and grown as decorative plant in gardens all over India. The kaempferol, quercetin, and cyanidin has been found in all parts of the plant. The hip yields zeaxanthin, rubixanthin, lycopene, taraxanthin and xanthophyll. An essential oil has been extracted from the flowers which contain geraniol citronellol, beta-phenylethanol, nerol, eugenol and methyl eugenol; also contains tannin, organic acids, cyanin, chlorogenic acid, cyanidin and its 3,5-diglucoside, carotene, quercitrin, and sugars. The chlorogenic acid, carotene, and sugars has been isolated from pollen (13-14).

*The Mijāz* (temperament) of Gul-e-Surkh is *Murakkabul Quwa* (different temperament) means it has two types of temperament which exerts their action at different time and at different doses. The *Miqdar-i Khurak* (dose) is 5-7 gm. Gul-e-Surkh is harmful for *Quwwat-e-Bāh* (libido). Anisoon (*Pimpinella anisum* L.), and Habbul Zalam (*Cyperus esculentus* L.) may be used to reduce or neutralize the side effects. Its *Badal* (substitute) are Banafsha (*Viola odorata* L.) and Marzanjosh (*Origanum vulgare* L.) (15-18).

**3.2.3.1 Therapeutic actions and uses of** Gul-e-Surkh**:**

It is known for its actions like *Mufarrih wa Muqawwi-i-A'da' Ra'isa* (tonic for vital organs), *Muqawwi-i-Badan* (Immunity booster), *Musakkin-i Safra* (neutralizing the heat of yellow bile), *Muqawwi-i -Mi'da*(Stomachic), *Muqawwi-i-Dimagh* (Brain tonic), *Muqawwi-i-Qalb* (Cardio tonic), *Musakkin-i Balgham* (neutralizing the heat of phlegm), *Muhallil Waram* (resolvent of inflammation) and *Muhallil-i Riyah* (carminative). It is used to manage *Zu'f al-Kabid* (hepatic insufficiency), *Zu'f al-Am'a'* (enteropathy), *Zu'f al-Mida* (weakness of stomach), *Khafaqan* (palpitation), *Ghashi* (syncope)*, Zu'f al-Qalb* (cardiac insufficiency), *Nafth al-Dam* (hemoptysis), *Hummā* (fever), *Ghashi* (syncope), *Sudā'* (headache) (15-18).

**3.2.3.3 Pharmacological properties:**

Various studies have proved the following activities of the Gul-e-Surkh e.g., Antimicrobial (45-46), Antiviral (47) Anti-inflammatory (48), Antioxidant (49), Anticancer (50), Neuroprotective (51), Antidiabetic (52).

**3.2.4 MAGHZ-E-TUKHM-E-KHIYARAIN (***Cucumis sativus* L. and *Cucumis utilissimus* Roxb.)

The fruits of *Cucumis sativus* L. is used as salad vegetable and cultivated for this reason. Rutin, cucurbitaside (glucosides), cucurbitasides B & C, alpha-spinasterol and ferredoxin have been isolated from it. The seedlings contain sterols in male and female flowers. The ascorbic acid oxidase, proteolytic enzymes, succinic and malic dehydrogenases has also been reported. The *Cucumis utilissimus* Roxb is cultivated in western Uttar Pradesh and Punjab (13-14).

The *Mizāj* (temperament) of Maghz-e-Tukhm-e-Khiyarain is *Bārid Ratb* (Cold & Moist) in second degree. Its *Miqdar-i Khurak* (dose) is 5-7 gm. It is harmful for *Barid Mizāj* (cold temperament peoples). Badiyan (*Foeniculum vulgare* Gaertn.) and Zanjabeel (*Zingiber officinale* Rosc.) may be used to neutralize the side effects (15-18).

**3.2.4.1 Therapeutic actions and uses of Maghz-e-Tukhm-e-Khiyarain:**

Its actions includes *Musakkin-i Safra* (neutralizing the heat of yellow bile),*Musakkin-i Dam* (neutralizing the heat of blood) and *Mudirr-i-Bawl* (diuretic). It is prescribed in *Waram al-Kabid Harr* (hepatitis), *Waram al- Tihal Harr* (splenitis), *Hummiyat Harra* (fever due to *Safra*), *Sozish-i-Mida* (burning sensation in stomach), (15-18).

**3.2.4.3 Pharmacological properties:**

Antioxidant activity (53-54), Antimicrobial (54) antiaging and anti-wrinkle activity (55-56), Antidiabetic (57-58), Hypolipidemic activity (59), Hepatoprotective activity (60)anticancer (61).

**3.2.5 SANDAL SAFAID (***Santalum album* L.**)**

Peninsular India from Vindhya mountains southwards, Karnataka and Tamil Nadu are natural habitat of it. Triterpene-*urs*-12-*en*-3 butyl-palmitate has been isolated from the bark. An essential oil is also present in heartwood which contains alpha-santalol, beta-santalol and dihydroagarofuran. The sesquiterpene hydrocarbons-alpha-, beta-, *epi*-beta-santalene and alpha- and beta-curcumene and beta-farnesene was also found (13-14).

*The Mijāz* (temperament) of Sandal Safaid is *Barid Yābis* (Cold& Dry) in second degree. Its *Miqdar-i Khurak* (dose) is 5-7 gm. It is harmful as *Qāti'-i-Bāh* (anaphrodisiac), and Shahad (honey) & Nabat (clarified sugar) may be used to reduce or neutralise its side effects. The Kafoor (*Cinnamomum camphora* Nees & Eberm) and Ushna (*Parmelia perlata* Ach.) may be used as substitute in case of nonavailability of sandal safaid (15-18).

**3.2.5.1 Therapeutic actions and uses of Sandal Safaid:**

The actions of this plants are *Muqawwi-i-Dimagh* (brain tonic), *Mufarrih wa Muqawwi-i-Qalb* (cardio tonic),*Muqawwi-i -Mi'da*(stomachic), and *Musaffi-i-Dam* (blood purifier). It is used for the management of *Waram al-Kabid Harr* (hepatitis), *Zu'f al-Qalb* (cardiac insufficiency), *Khafaqan* (palpitation),and *Hurqa al-Bawl* (burning maturation) (15-18).

**3.2.5.3 Pharmacological properties:**

Antidiabetic (62), Antifungal (63), Antibacterial (64), Antioxidant (65) Anticancer (66).

### 3.2.6 TUKHM-E-KASNI (*Cichorium intybus L.*)

Its natural habitat is Europe and commonly found in North West India, Tamil Nadu and parts of Andhra Pradesh. The root contains 58% inulin, lactucin, lactucopicrin, chicoriin, esculetin, esculin, umbelliferone, scopoletin and glucofructosans. Citric and tartaric acids is found in fresh chicory while acetic, lactic, pyruvic, pyromucic, palmitic and tartaric acids have been found in roasted chicory root13-14).

The *Mizāj* (temperament) is *Barid Yābis* (Cold& Moist) in second degree. Its *Miqdar-i Khurak* (dose) is 7-12 gm. It produces nausea and Sikanjabin (a compound formulation prepared by Vinegar and Honey) may be used to neutralize the side effect (15-18).

#### 3.2.6.1 Therapeutic actions and uses of Tukhm-e-Kasni:

The actions of the seeds are *Musakkin-i Safra* (neutralizing the heat of yellow bile),*Musakkin-i Dam* (neutralizing the heat of blood), *Mufattih-i Sudad* (deobstruent), and *Mudirr-i-Bawl* (diuretic). the drug is mentioned in the management of *Istisqa'* (ascites), *Hummayāt Safrawwiya* (fever due to bile), *Yaraqan Suddi* (obstructive jaundice), and *Hummayāt Muzmina* (chronic fever)(15-18).

#### 3.2.6.3 Pharmacological properties:

*Antimicrobial (67-68), Anthelmintic (69-70), Antimalarial (71), Hepatoprotective (72-73), Antidiabetic (74-75), Gastroprotective (76), Anti-inflammatory, Analgesic (77), Antioxidant (78), Tumour inhibitory activity (79).*

### 3.2.7 LUK MAGHSOOL (Coccus lacca)

Luk, commonly known as Lac or Lacca, is a resinous secretion produced by the female lac insect (*Laccifer lacca*). This insect is native to Southeast Asia and parts of India. It is produced in Burma, Assam, Madhya Pradesh, Uttar Pradesh, Bihar and Odisha. In USM, Coccus lacca has been used for its medicinal properties and is known by the name Luk, Lakh Dana. Luk Maghsool is processed Lac by a special procedure mentioned in the Unani Literature. It is used in both traditional and herbal medicine systems for treating different ailments. Lac contains wax (6%), red colouring matter (6.5%), laccaic acid, resin (70-85%) (80).

*The Mizāj* (temperament) is *Hārr Yābis* (Hot$^2$ & Dry$^3$). Its *Miqdar-i Khurak* (dose) is 0.5 to 2 gm. It is harmful in *Amrād al-Tihāl* (diseases of the spleen). Mastagi (*Pistacia lenticus* L.) may be used to neutralize the side effects (15-18).

#### 3.2.7.1 Therapeutic actions and uses of Luk Maghsool:

Its therapeutic actins includes *Jali* (Detergent), *Muhallil* (Resolvent), *Munaffith-i-Balgham* (Expectorant), and *Mujaffif* (desiccant). It is used to manage *Istisqa' Ziqqī* (ascites), *Yaraqan Asfar* (jaundice), *Su'al-o-Surfa* (cough/bronchitis), and *Siman Mufrit* (obesity)(15-18).

#### 3.2.7.3 Pharmacological properties:

Antiobesity effects (81-82), Anti-hyperlipidemic (83), antifertility activity (84).

### 3.2.8 ASL-US-SOOS (*Glycyrrhiza glabra* L.)

Mediterranean region is natural habitat of *Glycyrrhiza glabra*. It is grown in Now grown in Jammu and Kashmir, Punjab, and South India. The glycyrrhizin is the main chemical constituent, other constituents include glycyrrhetinic (glycyrrhetic) acid, chalcones, isoflavonoids, coumarins, triterpenoids and sterols, amines, lignans, amino acids, gums and volatile oils13-14).

*The Mijāz* (temperament) of Asl-us-Soos is *Murakkabul Quwa* (different temperament**),** means it has two types of temperament which exerts their action at different time and at different doses. Its *Miqdar-i Khurak* (dose) is 3-5 gm. It is harmful for Tihāl (spleen) and Kulya (kidneys). For spleen Kateera (gum of Cochlospermum religiosum L.) and for kidney Gule Surh (flower of Rosa damascena Mill.) may be used as corrective (15-18).

#### 3.2.8.1 Therapeutic actions and uses of Asl-us-Soos:

Its actions are *Mundij* (concoctive),*Muqawwi-i-A'sab* (nervine tonic),*Musakkin* (neutralize the heat of humours),*Mulayyin-i-Waram* (resolvent), *Mulayyin-i-Am'a'* (laxative), and *Mukhrij-i-Balgham* (expectorant). The therapeutic use of this includes *Rabw* (bronchial asthma), *Sual* (cough), *Buhha al-Sawt*(hoarseness of voice), and *Sozak* (gonorrhea)(15-18).

#### 3.2.8.3 Pharmacological properties:

Antioxidant (85-86), Anti-inflammatory activity (87), Antitussive and expectorant activity (88), Anti-ulcerative activity (89), Antimicrobial activity (90-91), Antiviral activity (91-92), Hepatoprotective activity (93), Anticancer activity (94), Neuroprotective activity (95), Sedative activity, Antidepressant (96).

### 3.2.9 GUL-E-NILOFAR (*Nymphae alba* L.)

It is native for Kashmir (in lakes). The flavonoids i.e., quercetin, kaempferol, apigenin has been found in flower. It contains a cardiac glucoside, nymphalin, which exerts sedative action in small doses. The petroleum ether extract of the plant of *Nymphaea* species, has shown hepatoprotective effects in $CCL_4$ induced liver toxicity study in rats (13-14).

The *Mijāz* (temperament) of *Gul-e-Nilofar* is *Barid Ratb* (Cold & Moist) in second degree. The *Miqdar-i Khurak* (dose) is 3-5 gm. It uses produce *Ḍu'f al-Mathana* (weakness of bladder). The Shahad Khalis (honey) may be used to neutralize the side effects (97).

#### 3.2.9.1 Therapeutic actions and uses of Gul-e-Nilofar :

It has actions like *Dafi'-i Hummiyat Safrawwiya* (antipyretic to bilious fever), *Mufarrih wa Muqawwi-i-Qalb* (cardio tonic), *Muqawwi-i-Dimagh* (brain tonic), and *Munawwim* (hypnotic). It is used to manage *Hummayāt Safrawwiya* (fever due to bile), and *Khafaqan* (palpitation) (97).

#### 3.2.9.3 Pharmacological properties:

Antifungal, Antitumor (98), Antioxidant (98-100), Anti Hepatitis-C (101), Hepatoprotective, Anti-inflammatory activity (100-101), and Anti-cancer activity (102).

### 3.2.10 TABASHEER (*Bambusa bambos* (L.) Voss.)

It is Wild throughout India, especially in the hill forests of Western and Southern India. In Unani it is called Qasab, Tabashir (Bamboo manna). The plant gave cyanogenic glucoside taxiphyllin. Bamboo-manna contains silicious crystalline substances (13-14).

The *Mijāz* (temperament) of Tabasheer *is Barid Yābis* (Cold& Moist**)** in second degree. Its *Miqdar-i Khurak* (dose)is 1-3 gm. It is harmful for *Quwwat-i-Bah* (libido) and *Ri'a* (lungs). Shahad (honey), Mastagi (*Pistacia lenticus* L), Unnab (*Zizyphus vulgaris* Lam.), Aelwa (*Aloe barbadensis* Mill.) and Zafran (*Crocus sativa* L.) may be used to neutralize side effects (15-18).

#### 3.2.10.1 Therapeutic actions and uses of Tabasheer:

*Mufarrih-i-Qalb* (exhilarant), *Qabid* (astringent), *Mujaffif* (desiccant), and *Mubarrid Shaded* (powerful refrigerant) (15-18).

*Khafaqan* (palpitation),*Ghashi* (syncope), *Safrawi Qay'* (bilious vomiting), and *Jarayan* (spermatorrhoea) (15-18).

#### 3.2.10.3 Pharmacological properties:

Antibacterial activity (103), Anti-inflammatory and anti-ulcer effect (104), Anti-Infertility activity (105), Anti-diabetic activity (106-107).

## 3.3 DISCUSSION AND CONCLUSION

Present management for liver diseases especially for hypoalbuminemia is to provide albumin, amino acids, recombinant human growth hormone, to supplement the need and to enhance ability of the liver to synthesize albumin. However, this type of treatment is expensive and chances of infections exist there (108). In Unani Medicines the pathogenesis of anemia with hypoproteinaemia is clearly discussed in length. The main reason behind it is alteration of the *Mizāj* (temperament) and *Quwwat Mughayyira* (transformative faculty) of the liver leading to insufficiency of the liver. The treatment of this condition is to improve liver functions and detoxify it by hepatoprotective drugs for the production of healthy blood with all components, enzymes and hormones. The symptoms and signs of Unani Medicine (USM) in patients with AHP include puffiness of face, eyelids, upper arms, or whole body, lethargy, paleness, loss of appetite, gingivitis, constipation, alternate diarrhea, disturbed or deep sleep, psychogenic disorders (4).

QZ is a potent polyherbal Unani formulation that has been successfully used in the USM for generations to treat various liver diseases in general and anemia with hypoproteinaemia in particular. A number of studies have shown that the ingredients of QZ have significant hepatoprotective effect. The ingredients also shown anti-inflammatory, antioxidant, anticancer, and antihyperlipidemic effects which may have beneficial effects on overall immunity, and counter inflammation. Therefore, the long-term efficacy of QZ in the treatment of AHP is more significant,

and its long-term use may not produce any life-threatening adverse effect as all ingredients has been used in natural form without any processing. Despite being particularly efficient in the treatment of liver ailments, there is a dearth of scientific data regarding its effects. To confirm the therapeutic benefit of QZ, systematic, large-scale, randomized controlled trials are suggested. The results of the clinical trials will show how well QZ has worked overall in treating AHP. In order to support the use of QZ in the management of AHP, the mechanism of action of QZ may also be explored.

## 5. Conflicts of Interest

The authors declare no conflicts of interest.

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