

Clinical effectiveness of an Unani regimen in the management of *Hasat-e-Mirrarah* (cholelithiasis): A case report

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Abstract

Hasat-e-Mirrarah (Cholelithiasis) is a common problem with a prevalence rate of 3.2% to 15.6% has been reported from Asia. This single case study aimed to assess the efficacy of Unani compound formulations along with diet therapy in the management of *Hasat-e-Mirrarah*. A 34-year-old male patient visited the private clinic on 30.04.2023 with a complaint of pain in the right-side upper abdomen for 1 month. In addition to pain, he had nausea, vomiting, abdominal irritation, and indigestion. The Ultra Sound Scan of the whole abdomen confirmed that there was a fatty liver and contained multiple gall bladder calculi (the largest one 8mm). The patient was treated with *Ilaj bil Dawa* (Pharmacotherapy) and *Ilaj bil Ghiza* (Diet therapy) treatments mentioned in the Unani Medicine. Unani regimen comprised of three formulations *Qurs-e-Kushta-e-Hajrul Yahood* two pills twice daily, *Majoon-e-Dabeedul Ward* five grams twice daily, and *Ithrifal-e-Sagheer* five grams twice daily were prescribed orally after meals for three months. Further, he was advised about diet. The patient's vitals remained stable during observation and treatment, and symptoms were improved. Post-treatment Ultra Sound Scan of the whole abdomen reported as mentioned that no stone was seen in the gall bladder. It was also observed that there were no adverse drug reactions during the treatment period. This case report documented the successful medical treatment for *Hasat-e-Mirrarah* through Unani Medicine. It concluded that the Unani regimen was effective and safe in managing *Hasat-e-Mirrarah*.

Keywords: Cholelithiasis, *Hasat-e-Mirrarah*, Gallbladder stone, *Qurs-e-kushta-e- Hajrul Yahood*, Unani Medicine.

Introduction

Cholelithiasis (Gallstones) are hardened deposits of the digestive fluid bile, usually made of cholesterol, that form in the gallbladder¹. In Unani Medicine, it is known as *Hasat-e-Mirrarah/ Hasat-e-Kabid*. Cholelithiasis is a worldwide problem and a prevalence rate of 3.2% to 15.6% has been reported from Asia². Gallstones may cause no signs or symptoms. If a gallstone lodges in a duct and causes a blockage, the patient may experience sudden and rapidly intensifying pain in the upper right portion of the abdomen, sudden and rapidly intensifying pain in the centre of the abdomen just below the breastbone, back pain between the shoulder blades, pain in the right shoulder and nausea or vomiting. Cholelithiasis may be caused by too much cholesterol in the bile, too much bilirubin in the bile, or if the gallbladder doesn't empty properly. There are several types of gallstones, they are cholesterol, pigment, and mixed stones³.

Unani Scholars also described *Amraze Mirrarah* (diseases of Gallbladder), under the caption of *Amraze Jigar* (Liver diseases)⁴. Most of the great Unani Scholars, such as Rabban Tabri, Majoosi, Ibn-e-Sina, Ibn-e-Hubal, etc., are described about this disease's causes and treatment methods. Causes of cholelithiasis according to Greco Arab Scholars per Rabban Tabri and Majoosi the main and first cause of gallstone formation is *Sudda* (obstruction) in gall bladder⁵. Ibn-e-Sina (1037) said that the causes of

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gallstone formation are *Dame ghaliz* (thick blood), *Zoaf quate dafeya* (weakness of the expulsive power), *Shiddate jazba* (lack of absorption), congenital narrowing of the biliary system, *Khilte ghaliz wa lazuj ghaliz ashiya* (thick humours and viscous things), *Mitti chuna* (lime) etc. Ibn-e-Hubal (1213) mentioned the same causes as Ibne-Sina with the addition of two special diets, *Hareesa* (the meal prepared with meat and crushed wheat), and *Aseeda* (the meal prepared with ghee and flour)⁶. Nafis bin Awaz used the term “*Hisat-ul-Kabid*” (liver stone) in place of *Sudda Kabid* (liver obstruction) and said that the causes of stone formation in the liver are the same as the stone formation in the kidney and urinary bladder⁷. As per Allama Akbar Arzani, the cause of hepatic stone is sticky raw fluid⁸. Allama Kabiruddin described the details of stone formation in the liver e.g. precipitation of bile, precipitation of bile salts in certain conditions, altered ratio of bile salt and bile acids, bacteria in the gall bladder act as a nucleus for stone formation⁹. On above said objectives, this case study conducted to evaluate an Unani regimen in the management of *Hasat-e-Mirrarah* (cholelithiasis).

Case history

A 34-year-old male patient who visited a private clinic on 30.04.2023 complained of pain in the right-side upper abdomen for one month. In addition to pain, he had nausea, vomiting, abdominal irritation, and indigestion. The pain was localized, frequent, and sharp, aggravated by taking oily foods which alleviated after taking analgesic drugs. There was no radiation of pain associated with muscular movement. There was no past history of diabetes mellitus, hypertension, and cholesterol. But he was under treatment for gastritis. There was no history of cholelithiasis in his family. He was a businessman, married, and non-vegetarian. He had no addiction to alcoholism, pan chewing, smoking and sleeping pills. The patient signed the informed consent form for publication of this report.

General examination

The patient was alert, oriented, and healthy. The build of the patient was average (Height: 1.59m, Weight: 60kg, BMI: 23.7 kgm⁻²). There were no pallor, icterus, or palpable lymph nodes. The vitals were stable (Pulse: 75 beats/minute, Temperature: 97.6⁰ F, Respiratory rate: 17 breaths/minute, Blood pressure: 126/83 mmHg) at baseline. Cardiovascular, respiratory, and nervous systems were normal at baseline.

On abdominal examination localized pain in the right upper quadrant, with rebound noted. He was slightly anxious about the surgery.

Investigations

The patient was diagnosed based on an Ultra Sound Scan (USS) of the whole abdomen. Figure 1 is the report of the USS of the whole abdomen done on 06.04.2023 before the start of the treatment. This report confirms that there was fatty liver I/II and contains multiple Gall bladder calculi (largest one 8mm).

ULTRA SOUND SCAN

Patient Name: Age: 34y Sex: M
 Referred By: Date: 06.04.2023

INDICATION: RLS (Cholest) upper abd pain - 1/52

Liver: Normal in size/ Echogenicity Normal/ Abnormal/ No Focal Lesion/ No intrahepatic duct dilatation/ Portal Vein - Normal

CHD: Normal bw

Gall Bladder: Normal cont few (3-4) small GB calculi

Pancreas: Normal w/ slight SW Spleen: Normal

R/Kidney: BPL: 9.7cm Normal C/M demarcation No hydronephrosis no. calculi/ No masses

L/Kidney: BPL: 9.9cm Normal C/M demarcation No hydronephrosis no. calculi/ No masses

Abdominal aorta: Normal calibre

Urinary bladder: Normal cont Prostate gland: Normal

NO Biliary calculi

NO para aortic/ Supra renal masses

NO PUD

NO episplenic flexure

Other Findings: No ascites

Comment: (1) Evidence of fatty liver (Grade I II) (2) few small GB calculi (largest one 8mm) * (GAD) / report also done (can't be included)

Memo: LFT & other recent I/O

Fig.1: Report of the USS of the whole abdomen (before treatment)

Intervention

The treatment of the patient was started on 30.04.2023. The Unani regimen contains three formulations *Qurs-e-Kushta-e-Hajrul Yahoood* in the dosage of two (02) pills twice daily, *Majoon-e-Dabeedul Ward* in the dosage of five (05) grams twice daily and *Ithrifal-e-Sagheer* in the dosage of five (05) grams twice daily, were prescribed orally after meals. Further, he was advised to take diets like Apples, Pineapples, Citrus fruits, Olive oil, etc. daily. The patient had a known case of gastritis. The patient was supplied medicines from the dispensary of the clinic every two weeks and this treatment regimen continued for three (03) months.

The composition of *Qurs-e-Kushta-e-Hajrul Yahoood* is given in table 1.

Table 1: Composition of the *Kushta-e-Hajrul Yahoood*¹⁸.

<i>Kushta-e-Hajrul Yahoood</i>	Scientific name	Quantity
<i>Hajrul Yahoood</i>	<i>Lapis judaicus</i>	100 g
<i>Aab-e-mooli</i>	<i>Raphanus sativus</i> (juice)	300 ml
<i>Shora</i>	<i>Potassium nitrate</i>	25 g

Table 2 describes the composition of *Majoon-e-Dabeedul Ward*.

Table 2: Composition of the *Majoon-e-Dabeedul Ward*¹⁹.

<i>Majoon-e-Dabeedul Ward</i>	Scientific name	Quantity
<i>Izkhar Makki</i>	<i>Cymbopogon citratus</i>	20 g
<i>Agar (ood)</i>	<i>Aquilaria agallocha</i>	20 g
<i>Balchar</i>	<i>Nardostachys jatamansi</i>	20 g
<i>Banslochan</i>	<i>Bambusa bambos</i>	20 g
<i>Tukhm-e-Kasni</i>	<i>Cichorium intybus</i>	20 g
<i>Tukhm-e-Kasoos</i>	<i>Cuscuta reflexa</i>	20 g
<i>Tukhm-e-Karafs</i>	<i>Apium graveolens</i>	20 g
<i>Taj Qalmi</i>	<i>Cinnamomum cassia</i>	20 g
<i>Darchini</i>	<i>Cinnamomum zeylanicum</i>	20 g

<i>Zarawand Mudahraj</i>	<i>Aristolochia longa</i>	20 g
<i>Qust Shireen</i>	<i>Saussuria hypoleuca</i>	20 g
<i>Gul-e-Surkh</i>	<i>Rosa damascena</i>	300 g
<i>Gul-e-Ghafis</i>	<i>Gentiana olivierii</i>	20 g
<i>Luk Maghsool</i>	<i>Lacifer lacca</i>	20 g
<i>Majeeth</i>	<i>Rubia cordifolia</i>	20 g
<i>Qiwam Shakar</i>	Sugar	2.4 kg
<i>Zafran</i>	<i>Crocus sativus</i>	2.9 g
<i>Arq-e-Gaozaban</i>	<i>Barogo officinalis</i>	30 ml
<i>Mastagi</i>	<i>Pistacia lentiscus</i>	20 g
<i>Ghee</i>		5 g

Table 3 describes the composition of *Ithrifal-e-Sagheer*.

Table 3: Composition of the *Ithrifal-e-Sagheer*²⁰.

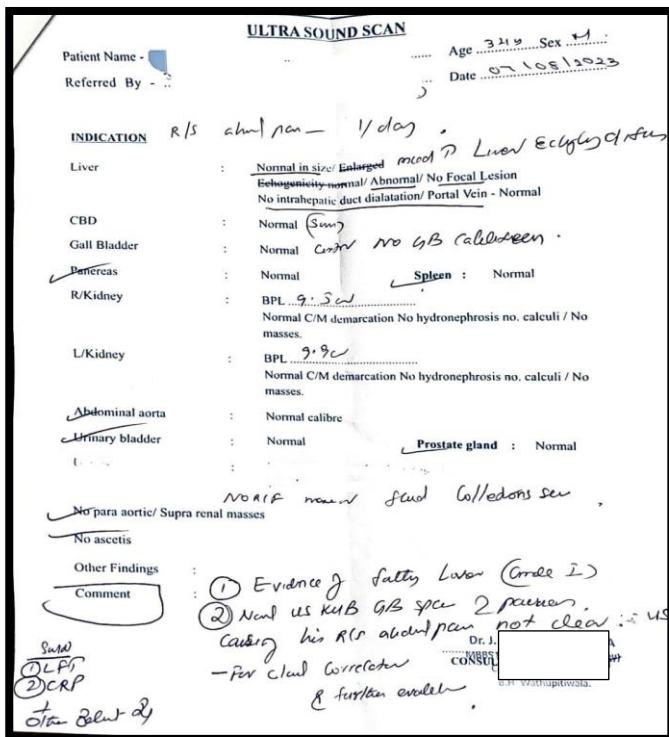
<i>Ithrifal-e-Sagheer</i>	Scientific name	Quantity
<i>Posth-e-Haleel-zard</i>	<i>Terminalia chebula</i>	5 Tolas
<i>Posth-e-Haleel-Kabuli</i>	<i>Terminalia chebula</i>	5 Tolas
<i>Haleel-e-Siya</i>	<i>Terminalia chebula</i>	5 Tolas
<i>Amla</i>	<i>Emblica officinalis</i>	5 Tolas
<i>Posth-e-Baleela</i>	<i>Terminalia bellirica</i>	5 Tolas
<i>Roghan-e-Gao</i>	Ghee	
<i>Shahad</i>	Honey	2 Lbs.

Observation and Outcomes

This is a single successful case study. It was observed that the patient had complained of pain in the right-side upper abdomen which improved after 1 month of treatment. The vitals of the patient remained stable during observation and treatment. The patient didn't report any nausea, vomiting, abdominal irritation, and indigestion. After 6 weeks of treatment, in the liver profile mild increase in serum ALT (SGPT) was noted as seen in Table 4. After 3 months of treatment, Ultra Sound Scan (USS) of the whole abdomen report as mentioned in Figure 2 confirmed that no stone was seen in the gall bladder. However, the evidence of fatty liver grade 1 persisted. There was also no adverse drug reaction during the treatment period.

Table 4: Liver profile of the patient after 6 weeks of treatment

Parameter	Result	Reference value
Serum Total Protein	72.7 g/l	60.0 – 83.0 g/l
Serum Albumin	43.2 g/l	35.0 – 50.0 g/l
Serum Globulin	29.5 g/l	25.0 – 35.0 g/l
A / G ratio	1.4	0.8 – 2.3
Serum bilirubin - Total	0.59mg/dl	0.1 – 1.2 mg/dl
Serum ALK Phosphatase	205.3 U/L	100.0 – 290.0 U/L
Serum ALT (S.G.P.T.)	47.2 U/L	0.1 – 40.0 U/L
Serum AST (S.G.O.T.)	26.5 U/L	0.1 – 40.0 U/L
Serum Gamma GT	25.1 U/L	0.1 – 49.0 U/L

**Fig. 2: USS of the whole abdomen, after treatment - 07.08.2023**

Discussion

Cholelithiasis in Unani system of Medicine

Cholelithiasis are small stones, usually made of cholesterol, that form in the gallbladder. Cholelithiasis is known as *Hasat-e-Mirrarah/ Hasat-Sabra et. al., Clinical effectiveness on Hasat-e-Mirrarah*

e-Kabid in the Unani system of Medicine. The Unani classical literature illustrated cholelithiasis under the caption "Safravi pathri" or "Hisat ul Mararah" which forms in the biliary tract¹².

The Unani fundamental is based on humoral theory which hypothesises the presence of four humours i.e. *Dam* (Sanguine), *Balgham* (Phlegm), *Safra* (Yellow bile), and *Sawda* (Black bile) in the body. The equilibrium of the four humours maintains the health status of an individual and an imbalance in the quantity or quality of anyone is found to be a diseased condition. Whether it originates in the liver or gallbladder, it will obstruct the flow of bile which leads to *Sue-mizaj Kabid* (derangement of the temperament of the liver results in increased production of bile¹³).

Further, there are four common cellular balancing mechanism available in human body for maintenance of normal equilibrium of the cells. They are *Quwate Jazibah* (Absorptive power), *Quwate Masikah* (Retentive power), *Quwate Hazimah* (Digestive power) and, *Quwate Dafiah* (Expulsive power)¹³. The persistent malfunctioning of the cited mechanism may result in pathological condition and apart from it, the *Shiddat Quwate Jazibah* (lack of absorptive power), *Zoaf e Quwate Dafiah* (weakness of expulsive power), and *Safra Ghaliz* (bile sepsis) may lead to stasis of bile (biliary sludge) and formation of gall Stones⁶.

Avicenna (980-1037) in his canon of Medicine describes that the Obstruction either originates in the liver or gallbladder will obstruct the flow of the bile. He also mentions that in cold diseases urine turns red due to obstruction in the duct between the gallbladder and the intestines from the excess of phlegm diverts the bile towards the kidneys for excretion in the urine¹³.

Ismail Jurjani (1040-1136AD) in his book *Zakhira Khwarzam Shahi* mentioned that due to *Suddah* (Obstruction) between the liver and gallbladder, *Safra* (Bile) does not pass to duodenum and it leads to the accumulation of bile in the Liver and thus results in *Warm -e Kabid*¹⁴. Hakeem Mohd. Akbar Arzani in 1721 AD in his famous book "Mizan-un-

Tibb” stated that thick viscid bile is the cause of gallstone¹⁵.

In the Unani system of Medicine, there are four main types of treatment. They are *Ilaj-bil-Ghiza* (Diet therapy), *Ilaj-bil-Dawa* (Pharmacotherapy), *Ilaj-bil-Tadbir* (Regimental therapy), and *Ilaj-bil-Yad* (Surgery). For this case, we have used *Ilaj-bil-Ghiza* and *Ilaj-bil-Dawa* treatment modalities to treat cholelithiasis patient¹⁶.

Ilaj-bil-Dawa

Ilaj-bil-Dawa is a type of treatment that involves the use of naturally occurring drugs, mostly herbal. Drugs of animal and mineral origin are also used¹⁶. Here are three formulations that were prescribed orally as an *Ilaj-bil-Dawa* treatment. They are *Qurs-e-Kushta-e-Hajrul Yahood*, *Majoon-e-Dabeedul Ward*, and *Ithrifal-e-Sagheer*.

Qurs-e-Kushta-e-Hajrul Yahood

Qurs-e-Kushta-e-Hajrul Yahood is an Unani pharmacopoeial formulation, which has the actions of *Mufattit-e-Hasat* (Lithotriptic), *Muqawwi-e-Kabid* (Strengthen the liver) and *Qabis* (Astringent)¹⁷. Used in clinical practice for the treatment of breaks and expel the stones from the kidney, bladder, and gall bladder as it has *Mufattit-e-Hasat* action. Future as it has *Muqawwi-e-Kabid* action it will strengthen the liver too.

Majoon-e-Dabeedul Ward

Majoon-e-Dabeedul Ward is another pharmacopoeial formulation¹⁹, that has the actions of *Mudir-e-Baul* (Diuretic), *Muhallil e waram* (Anti-inflammatory). So, it was used to treat *Waram-e-jigar* (Hepatitis), *Warm-e-meda* (Gastritis) and *Waram-e-Raham* (Uteritis) conditions. Further it has used in *Zof-e-Jigar* (Weakness of the Liver) and *Zof-e-Meda* (Weakness of the Stomach) too.

Ithrifal-e-Sagheer

The formulation *Ithrifal-e-Sagheer*²⁰ is also a pharmacopoeial one indicated in hemorrhoids, memory loss, and nervous breakdown. It is good for the brain. Further, it has *Mushil* (Laxative) effect, increase digestion and strengthen the stomach too.

The specific actions of these drugs mentioned in Table 5.

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Table 5: Drug with specific actions

Drug	Specific actions that are effective in the treatment of Cholelithiasis
<i>Kushta-e-Hajrul Yahood</i>	<i>Mufattit-e-Hasat</i> (Lithotriptic) <i>Muqawwi-e-Kabid</i> (Strengthen the liver)
<i>Majoon-e-Dabeedul ward</i>	<i>Mudir-e-Baul</i> (Diuretic) <i>Muhallil e waram</i> (Anti-inflammatory) <i>Muqawwi-e-Kabid</i> (Strengthen the liver)
<i>Ithrifal-e-Sagheer</i>	<i>Mushil</i> (Laxative)

Ilaj-bil-Ghiza

Ilaj-bil-Ghiza is meant by diet therapy. In Unani treatment, food plays a key role. Diet therapy, or "*Ilaj Bil Ghiza*" in the Unani system of medicine, plays a crucial role in maintaining health and treating various diseases.

Ananas (Pineapple), *Seb* (Apple), Citrus fruits e.g. *Lemun* (Lemon), and *Roghan-e-Zaitoon* (Olive oil) are mainly used as diet therapy in cholelithiasis. According to Unani Medicine, *Ananas* has *Mudir-e-Baul* (Diuretic) and *Mushil* (Laxative) actions. *Seb* has *Mufattit-e-Hasat* (Lithotriptic), *Musakkin-e-alam* (Analgesic), and *Muqawwi-e-Kabid* (Liver tonic) actions. *Lemun* has *Muqawwi-e-Kabid* (liver tonic), and *Hazim* (digestive actions)²¹. Because of these specific actions, the above-mentioned fruits are used as diet therapy in managing *Hasat-e-Mirrarah*. *Roghan-e-Zaitoon* does have laxative, antioxidant, and hepatoprotective properties. Fibers bind bile acid and it improves cholesterol excretion²². During a gallbladder flare-up, one should eat food that is low in fat and high in water content, pineapple is one of such a fruit. Apple is rich in malic acid. Malic acid is a type of organic compound that can soften gallstones, making them easier to dissolve therefore it aids in gallbladder stone removal naturally²³. Citrus fruits contain limonene. D-limonene has been used clinically to dissolve cholesterol-containing gallstones. Phytochemicals that are contained in lemon improve hepatobiliary excretion²⁴.

Ibn-e-Hubal (1213) mentioned two special diets, *Hareesa* (the meal prepared with meat and crushed

wheat), and *Aseeda* (the meal prepared with ghee and flour) which cause cholelithiasis⁶. Therefore, the patient was advised to avoid the above in his diet. Further, he was advised to drink plenty of water, to take regular exercise, and to have a good sufficient sleep.

Conclusion

Hasat-e-Mirrarah is a common condition in the gall bladder. It is considered a self-limiting disease and is treated by surgical intervention and laser lithotripsy. This case report is one of the documents revealing that the Unani regimen comprising three formulations along with diet therapy was safe and effective in managing cholelithiasis. This report also highlights the potential of Unani Medicine in health care. This case report may draw the attention of Unani Practitioners to do extensive research in the area of *Hasat-e-Mirrarah*.

Conflict of interest

There was no conflict of interest.

Acknowledgement

We are thankful to the Patient for his kind participation and cooperation in this research.

References

- Hjaltadottir, K., Haraldsdottir, K.H., & Moller P.H. (2020). Gallstones-review. *Laeknabladid. Icelandic*. 106 (10): 464-472.
- Gyedu, A., Aboagye, K. A., & Peprah, A. B.(2015). Prevalence of cholelithiasis among persons undergoing abdominal ultrasound at the Komfo Anokye Teaching Hospital, Kumasi, Ghana. *Afr Health Sci*. 15: 246–252.
- Njeze, G.E.(2013). Gallstones. *Nigerian Journal of Surgery*. 19 (2): 49-55.
- Sina, I. *Al Qanoon fit Tib* (Urdu translation by Kantoori GH), Aijaz Publishing House, 4, New Delhi,1444-1447.
- Tabari, F.H., (1981), Translated in Urdu by Hakeem Rasheed Ashraf Nadv, Matba Hamdard Foundation Press, Karachi, 635-637.
- Ibn-e-Hubl, (1362), *Kitabul Mukhtarat, Dairatul Maarif Osmania*, 3, Hyderabad,355-356.
- Ibne-Nafis, B.A.B.J.K., (1989), *Sharahul-Asbabe wal Alamat*, Munshi Nawal Kishor Lucknow, 2,13-14.
- Arzani, H. M. A., (1925), *Tibbe-Akbar*, Munshi Nawal Kishore Lucknow, 11, 222-263.
- Kabeeruddin, H. M., (1980), *Tarjuma Kabeer*, Hikmat Book Depot, 2, Hyderabad, 306-307.
- Khan, A., (2011), *Iksir-e-Azam*, Idarah Kitab Us Shifa New Delhi.
- Ahamed, A. (2014). Importance of Ilaj bil Ghiza (Dieto-therapy) in Unani System of Medicine. *JETIR*.10: 160-165.
- Kabeeruddin, H.M., (1980), *Tarjuma Kabeer*, 2, 822.
- Sina, I., *Al Qanoon fit Tib* (Urdu translation by Kantoori GH), Aijaz Publishing House, 4, New Delhi, 905-906.
- Jurjani, I., (2010), *Idara Kitab- Us-Shifa*, NewDelhi, 19, 23, 25, 27, 124, 128, 448 & 464.
- Arzani, M.D.A., (2002), *Mizan-ul-tibb*, Idara Kitab-ul-shifa, Daryagunj, New Delhi. 156
- Ansari, A.P. (2020). *Ilaj bil Tadbir* (regimental therapy): a core mode of Unani treatment. *J Complement Integr Med*.18 (3): 449-458.
- Anonymous, (2008), *National Formulary of Unani Medicine*, Part-V, India: Department of AYUSH , Ministry of Health &Family welfare, Government of India, 55.
- Anonymous,(1982), *Unani Pharmacopoeia*, IMPCOPS, 84.
- Anonymous, (2016), *The Unani pharmacopoeia of India*. India: Pharmacopoeia commission for Indian medicine & homeopathy, 2, Ghaziabad, 83.
- Anonymous, (1982), *Unani Pharmacopoeia*, IMPCOPS, 47
- Naseer, M. (2018). Fruits of medicinal importance. *International journal of Unani and Integrative Medicine*. 2(1): 06-10.

22. Ciaula, A. Garruti, G. Frühbeck, G. Angelis, M. Bari, O. Wang, D.Q. Lammert, F. & Portincasa, P. (2019). The Role of Diet in the Pathogenesis of Cholesterol Gallstones. *Curr Med Chem.* 26(19): 3620-3638.
23. Dekkers, R. (1999). Apple juice and the chemical-contact softening of gallstones. *Lancet.*18-25.
24. Sun, J. (2007). D-Limonene: safety and clinical applications. *Altern Med Rev.* 12(3): 259-64.