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Lajward (*Lapis lazuli*): Medicinal Potential of a High-Value Gemstone in the Light of Unani Medicine



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ABSTRACT

In the Unani System of Medicine drugs are used, obtained mainly from three sources (*Mawaleed-i-Thalatha*) viz., plants, minerals, and animals. Most of the drugs used from plant origin, but mineral and animal substances also play an important role in therapeutics. There are a vast description available on mineral substances under *Hajariyat* (stones), *Filzat* (metals), *Gil* (soils) etc. which are used as medicine after detoxification or rectification by various methods. Various *Hajariyat* (stones) have been claimed by Unani scholars to be useful in the management of various diseases of the body using either alone or including in compound formulations. *Lapis lazuli* is a valuable gem that has been listed peculiar to curing asthma, palpitation, mania, melancholia, amenorrhea, nephralgia, and to strengthen vital organs. However *Hajariyat* and metals are considered to be poisonous, so for medicinal purposes they are used after subjecting certain *Tadbeer* (detoxifying method) which make them useful. After the purification process, the drugs become physically and chemically pure, therapeutically more effective, and less toxic, otherwise, they may destroy the physiological function of the body. The objective of the present paper is to explore the hidden medicinal properties of Lajward (*Lapis lazuli*) from various Unani kinds of literature written by eminent Unani physicians and in the light of modern researches.



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INTRODUCTION:

Unani System of Medicine uses plant, animal and mineral origin drugs called *Mawaleed-i-Thalatha*.¹ Plant kingdom is most useful source for medicinal purpose but animal and mineral sources are also mentioned as important medicinal substances in various compound formulations.^{2,3} Lajward is a famous and precious stone⁴ and one of the most useful gem from a mineral source, which is used as medicine for treating various diseases. The name *Lajward* is made up of two Persian words “Laj” and “Award”. Laj means “to make Naqsh or design” because artists have to use it for making various designs and arts. In Arabic it is known as *Lazward*. The hard, reddish-blue, purplish red, or greenish red, shiny, with golden spots are considered better and also those are found in Gold mines.⁵ Its scientific name is *Lapis lazuli*, *Lapis* is a *Latin* word meaning stone and *Lazuli* is the place associated with the stone is mined. It has been mined from Afghanistan for 6000 years. *Lapis lazuli* is, has been valued since antiquity for its intense strong blue color. It is rare semi-precious and non-metallic stone prized since antiquity. It is formed from a mineral known as lazurite, which can be regarded as a mixed crystal of the sodalite-hauynite feldspathoid group. It has been found so far, in only a few places⁶ such as India, Pakistan, Afghanistan, Egypt and Iran Mesopotamian, Greek, Chile, Russia, Siberia, Angola, Burma, Canada, USA. The main source of the best material is Afghanistan was, at the 4000 m level. The best lapis is rich in lazurite with a homogeneous appearance and a minimum of accessory minerals, some of which have a relatively high density. Lower grades of lapis are textured, often banded, with significant and obvious amounts of carbonate and silicates⁶ Traded with Afghan suppliers, probably via Turkey, *Lapis lazuli* was employed by the ancient Egyptians from pre-dynastic times onwards for the production of beads, scarabs, amulets, and other small objects, as well as a coloring agent.⁷ Theophrastus (c.370-c.287 BC), Aristotle’s pupil, in his treatise *On Stones* included lapis lazuli in the category of valuable stones. Lapis was known as *σάπφειρος* or sapphirus, in the ancient world and in medieval times too. A purer deep blue variety, low in pyrite, was known as *κύανος* or cyanus, a term which was also applied to other blue minerals, such as azurite⁸. It has a strong blue colour. Patches of pyrite are a specific identifying mark of the stone. Deep blue lapis was the premier blue pigment in Roman times. Pliny the Elder (AD 23–79), has also mentioned azurite and lapis lazuli in his book “*Naturalis Historia*”.⁶ It is used in paintings, jewellery, and various arts. *Lapis lazuli* was highly valued in Mesopotamia and the Mediterranean region as a decorative building stone, a symbol of dignity, in various ritual and magical contexts, in votive offerings, as royal gifts

and tributes, and as stones in a wide variety of items of jewellery. ⁹In Unani System of Medicine Lajward is the best drug for melancholic disorders caused by excess of morbid *Sawda* (black bile), as mentioned by IbnSina (Avicenna), Razi (Rhazes) etc. According to IbnZohr Mineral origin drugs are more effective for purgation of *Khilt Sawda* and *Lajwardis* very useful for this purpose, but it should be used after *tadbeer* (detoxification or rectification).¹⁰*Tadbeer-i-Advia* or detoxification is a term used for removing unwanted or toxic substances from the drug. According to its detoxification method, it is named as *Maghsool*, *Mehlool*, *Muharriq*, and *Saeeda*.³ According to Hakim Azam Khan, for purgative purpose, *Lazward Ghair Maghsool* (water untreated) should be used, because it has better purgative property than *Lajward Maghsool* (water treated).⁵ Lapis (after washing 50 times) was mentioned by Burton (1628) as a purging remedy for melancholy ¹¹In Unani System of Medicine it is used for the treatment of eye diseases, skin ailments, gynecological disorders, cardiac and nerve diseases. According to Unani physicians viz; Rhazes, IbnSina, IbnZhohr, etc, it is considered as an effective drug to treat nerve and psychological disorders especially melancholia. After collection of the gem it is considered better for medicinal use till 3-4 years, then it became less in medicinal value.¹² Lazurite contains calcite, sodalite, and pyrite, augite, diopside, and enstatite; mica, hauynite, hornblende, and nosean are also present in it. Synthetic Lajward is prepared with the help of *Zarnikh Zard* (orpiment), *Zaj* (alum), water treated with a hot rod of copper and vinegar, one more variety is prepared by *Sang-i-Marmar*. The synthetic one is not used medicinally. The characteristic features of the original one are hard with golden and shiny spots, the colour not diminished or increased after making powder, sand less etc. ⁵ In the Book *Ganj Badaward* quality of *Lajward* can be determined by the following method.

1. When wet powdered *Lajward* put and rub on cotton cloth, if it gives blue marks on cloth then it is considered as synthetic.¹³
2. When powdered *Lajward* is put in water for some time, if it is settled down without changing the colour of water, this quality is considered better.¹³
3. Rub the *Lajward* on hand after mixing it with saliva, if it gives bluish colour on hand then considered as synthetic, if not then it is original.¹³
4. Put the *Lajward* on heated pan or burning charcoal, if it burns rapidly and becomes black then it is synthetic and if remains on its original state (bluish colour) then considered good quality.¹³

MATERIALS AND METHODS:

A thorough literature survey was undertaken using the various online bibliographic databases like Pub Med, Google Scholar, Science Direct, Web of Science and Scopus. Classical Arabic and Persian Unani \ literature translated various publications were used for Unani references such as *AL-Qanun*, *Al-Havi*, *Kitabut Taiseer*, *Muheet-i-Azam* and Urdu literatures such as *Khazainul Advia*, *Makhzanul Mufradat* etc. were searched. The stone for the image was obtained from drug vender from Srinagar and New Delhi.

Taba'i Khususiyat (physical characteristics):

Colour: *Lapis lazuli*'s colour depends on its chemical composition. it is basically blue but can vary from marine blue to violet blue, sometimes greenish tinges are present; *Lapis lazuli* are the azure-blue feldspathoid lazurite, usually finely granular, and small amounts of fine grained pyrite which impart a sparkle (stars in the deep blue of the heavens).⁶

Taste: It is tasteless. ¹⁴

Transparency: Commonly it is opaque.⁶

Consistency: *Lapis lazuli*'s hardness is not high, being ≤ 6 (impurity dependent) on the Moh scale, but it is durable enough and can be quite resistant to crushing.⁶

Mutaradifat (vernacular names)

Arabic: Lazward, ¹⁵Hajr-i-Lazward

English: Lauzurite

Greek: Armania, Qawamus ⁵

Hindi: Rajwrat¹³

Persian: Lajward¹⁴

Sanskrit: Rajwrat¹⁵, Nilaima, Nrpapalah, Swarnadhdtu, Rajadri and Avarta-manilt.¹⁶

Urdu: Lajward¹³

Ajza-i-must'mala (parts used): The stone is used medicinally after doing purify by the method of *Ghusl* (water treatment), *Tahlil* (dissolution) and *Saeeda* (making fine powder),so,

called as *Lajward Maghsool* (water treated), *Lajward Mehlool*, and *Lajward Saeeda* respectively.

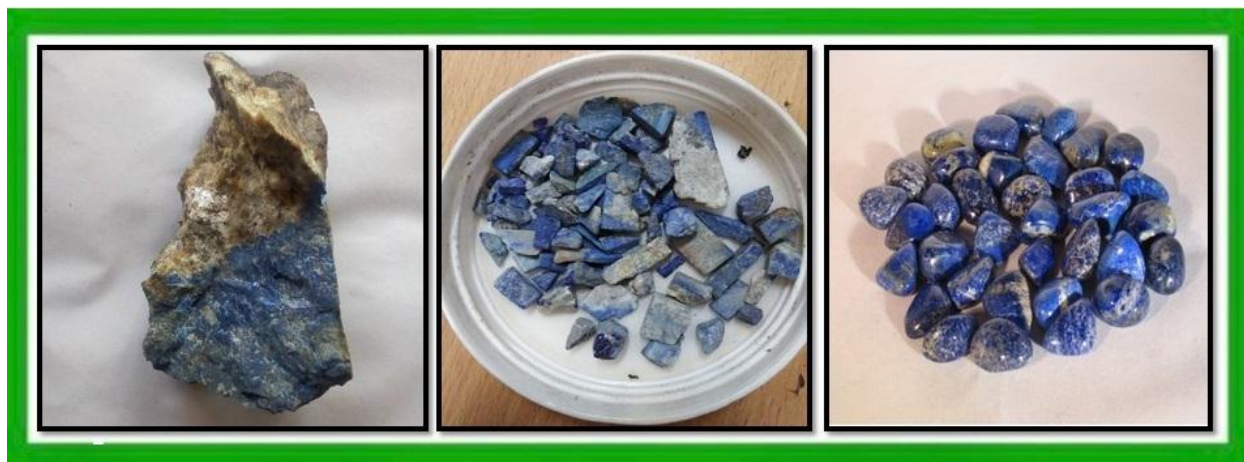


Figure No. 1: Lajward (*Lapis lazuli*)

Mizaj (temperament): The temperament of *Ghair Maghsool*/water untreated is considered as hot in 2nd and dry in 3rd degree¹⁷ and *Maghsool*/ water treated is cold in 1st and dry in 2nd degree.⁵

Af'al (action): It is commended as having *Mufarriḥ* (exhilarant), *Muqawwi-i-qalb* (cardiotonic), *Mushil-i-Akhlāt-i-Ghaliza* (evacuates thick humour), *Daḥī 'Amrad-i-Sawdawiya*, *Daḥī 'Khafaqān Barid* (anti-palpitation), *Daḥī 'Malankhuliya* (anti-melancholic), *Mudammil-i-Quruh-i-Chashm* (anti-ophthalmic ulcer), *Daḥī 'Bahaq* (anti-pytriasis), *Daḥī 'Baras* (anti-vitiligo), *Musaffi-i-dam* (blood purifier), *Musaffi-i-Akhlāt Mukaddar* (purifier of turbid humour), *Mushil-i-Sawda* (melanogogue), *Mudirr-i-Bawl* (diuretic), *Mudirr-i-Hayd* (emmenagogue), *Jali* (detergent), *Mujaffif* (desiccant) properties. The potency of lazuli is similar to that of *Lizaquz Zahab* (chrysocolla), but it is slightly weaker in action.^{17,5,15,18} It is analgesic and resolvent of chronic inflammations,⁵ it also controls Ufoonat (infections).¹⁹

Iste'malat (uses): It is useful in *Sawdawi* ailments such as illusion, phobia, grief, *Waswas* (anxiety), *Bekhwabi* (insomnia), mania, *Malankhuliya* (melancholia) etc. It improves cardiac function and useful in *Khafaqān* (palpitation) and cardiac weakness. *Diq al-Nafas* (dyspnea and asthma). In Urinary system it is useful for genitourinary system and useful for *Salabat-i-Rehm* (induration of uterus), *Ihtibās Tamth* (amenorrhoea), *Waj'al-Kulya* (nephralgia), *Waj'al-Mathana* (vesicular pain) etc. *Lajward* is applied for the treatment of *Amrad-i-Jild* (skin diseases) like, *Baras* (vitiligo), *Bahaq* (pytriasis), *Quruh-i-Chashm* (optical ulcers),

Jarab (scabies), *Hikka* (pruritus), etc. It is very effective drug for eye diseases such as *Ramad* (conjunctivitis), *Dam'a* (epiphora), *Salaq* (blepharitis), etc. *Ru'af* (epistaxis) etc., *Juzam* (leprosy), *Quruh-i-Sa'iyā* (spreading ulcer).^{5,15,17, 18, 20}

TARKEEB-I-ISTE'MAL (MODE OF ADMINISTRATION)

Lajward is used after making purify by various means and called *Ghusl*, *Tahleel*, *Ihraq*, and *Saeeda* and accordingly purified form is known as *Maghsool*, *Mehlool*, *Saeeda*³ and *Muharraq*. *Gasl* is a method in which *Lajward* is grounded into fine powder, sufficient quantity of water is then added to the powder, stirred and allowed to settle down. The finer particle of the stone still suspended in the water will come out when decanted. The coarse powder will settle down at the bottom. These coarse particles are removed and ground till all the particles pass through the process of decantation. The decanted water is left undisturbed so that the finest particles when dried are finely powdered this water treated powder is called *Maghsool*.²¹ *Lajward Muharraq* is prepared by the method of *Ihraq*. Drugs which undergo this process are suffixed with the term '*Muharraq*' or '*Sokhta*'. It is the process in which the drug is burnt to the charring stage but not reduced to ash.²¹

***Amrad-i-Sha'r* (diseases of hair):** It applied as hair massage to make them curly.⁵

***Amrad-i-Ain* (eye diseases):** Due to its evacuating property of morbid humor, it is used as *Surma* (corylum) and applied on eyes for the treatment of *Ramad* (conjunctivitis), *Dam'a* (excessive lacrimation), *Salāq* (blepharitis) and *Quruh-i-Chashm* (ophthalmic ulcer).^{5, 17} It strengthen the eye lids,⁵ beautifies eye lashes and makes them thick and dense. In this respect it is said to be the best drug due to the potency of evacuating the morbid humor which hampers the growth of hair.²² In falling of eyelashes, the powder of *Lajward Maghsool* is applied as *Surma* to regrow the eye lashes.¹⁰

***Intifakh-i-Luhāt*:** *Lajward* or its water is used for some days as required for the removal of *Intifakh-i-Luhāt* (swelling of uvula) which become bluish due to involvement of *Khilt Sawda*, This prevents its progress into diphtheria.¹⁰

***Malankhuliya* (melancholia):** Due to its *Muqawwi-i-aza-i-ra'isa* (tonic to vital organs), *Mufarrih Qalb* (cardiac tonic) and *Muqawwi-i-A'sab* (nerve tonic) properties, it is used for the treatment of *Malankhuliya* (melancholia) and *Junun* (mania). 500 mg powder is taken with *Arq-i-Kewra* or *Arq Gulab*.

Ru'af (epistaxis): As *Qati' Ru'af* its *Nafukh* (snuff) is applied for the treatment of epistaxis.⁵

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Amrad-i-Qalb: According to Ibn Sina it is mentioned in *Advia Qalbiya* that, *Lajward* has similar effect than *Hajr-i-Armani* but lesser in efficacy. It produces cardio protective effect by removing black bile across the heart so effective in *Gham* (sorrow), *Ham*, *Tawahhush* (anxiety), *Sehr* (insomnia), *Malankhuliya* (melancholia), *Waswas* (bad thoughts) etc.⁵

Amrad-i-Jild (skin diseases): It helps in purification of blood.¹³ A paste is applied to skin for the treatment of *Bahaq* (pytriasis) and *Baras* (vitiligo). Its powder is taken orally for the treatment of *Fasad-i-Khoon* (morbidly of blood). Due to its burning and detergent properties it is applied locally either alone or with vinegar to remove warts.^{5, 17} IbnZohr has included it in the formulation of ointment, which is used topically for the treatment of *Thalil* (wart). For the treatment of *Damamil* (boils and abscess) caused by *Madda-i-Sawdawi* (black bile), various formulations such as *Khayshanda* (infusion), *Ma'jun* etc. are used effectively.

Amrad-i-Niswan (gynecological diseases): When taken orally or used as a suppository it acts as a good emmenagogue. It purges out black bile from uterus and removes its hardness. It purges out the viscid matters from the blood.¹⁷ According to some physicians a firzija (suppository) made with *Lajward* (1 ½ gm) and *Roghan Zaitoon* (olive oil) 3 ½ ml, is used to put in the vagina to prevent abortion.⁵

Humma (fiver): 1gm *Lajward* with *Sharmbat Wardand* warm water is useful for *Humma-i-Rub* (quartan fever).⁵

Miqdar Khurak (dose): Its dose is upto 4 gm when used alone and 3.5 gm when administered in combination with some other drugs.¹⁷ Hakim Kabiruddin has mentioned the dose as 1-3 g.¹⁸

Mazarrat (adverse effects): It is harmful for cardia of stomach and causes nausea, emesis, and restlessness¹⁴. It also elicits burning and ulcerative actions.¹⁷

Musleh (correctives): For cardia its corrective is *Hamama* (*Amomum cardomum* L.), and for others, *Mastagi* (*Pistacia lentiscus* L.), *Katira* (*Sterculia urens* Roxb.), *Asal* (honey),²³ *Tabasheer* (*Bumbara arundinacea*)¹⁵ are also used as correctives.

Badal (substitute): *Hajr-i-Armani* (*Lapis arminium*) and *Hajrul Yahood* (*Lapis judaicus*) are used as substitute.^{15, 17} Armenian stone (*Lapis arminium*) is slightly azure in colour, lacks

compactness and is sandy in structure. Sometimes the dyers and painters use it as a substitute for lapis lazuli. The latter is softer and smoother than Armenian stone. It is unsuitable for the stomach. The water treated stone is not emetic, but the untreated one is an emetic. In short it is unsuitable for the stomach.¹⁷ *Hajrul Yahud* is also a stone known as Jewish stone (*Lapis judaicus*). It is of short length resembles a small nut. It bears various parallel lines coming from opposite directions and intersecting each other giving it an appearance like the bright scales of a fish. It weakens the stomach and does not suit it. It reduces appetite.

Murakkabat (compound formulation): *Habb-i-Jawahar, Habb-i-Halela, Itrifal Sanai, Jawaharmohra, Khamira Yaqoot, Ma'jun Chob Chini, Ma'jun Murawwah al-Arwah, Mufarrih Kabir, Mufarrih Yaqooti, Safoof Lajward, Tiraq-i-Kabeer, Yaqooti Har, Yaquti Mo'tadi*^{2,24}(See table 01 for detail).

Table No. 1: Showing compounds of Lajward (*Lapis lazuli*) and their medicinal uses

S.N.	Name of compound	Dosage& mode of administration	Medicinal uses
01	<i>Habb-i-Dawali</i>	5-10g/orally	Due to its purgative property it is used in elephantiasis ²⁵
02.	<i>Habb-i-Jawahar</i>	1-2 pills with Dawaul Misk mo'tadil Jawahar Wali or Khamira Gaozaban 10 g	Tonic to Vital organs, and stimulant of Innate heat ^{2,3}
03.	<i>Habb-i-Halela</i>	6-9gmwith Arq Badiyan or water at night	Headache ²
04.	<i>Habb-i-Lajward</i>	2-3g	It is the evacuant of black bile, so used for melancholia, and palpitation that occurs due to black bile ²⁶
05.	<i>Itrifal Sanai</i>	7-10g with Arq Badiyan or water at night	Headache, constipation, melancholia ²
06.	Jawaharmohra	60 mg	Due to its tonic action on vital organs, it is used in the weakness of vital organs ³

07.	<i>Khamira Marwareed Banuskha-i-Kalan</i>	3-5 g/orally	Due to tonic and exhilarant properties it is used in palpitation, restlessness, cardiac weakness, general weakness, typhoid, measles and chickenpox ³
08.	<i>Khamira Yaqoot</i>	3-5g with Arq Gaozaban/ orally	Cardiac weakness, Palpitation, Melancholia ²
09.	<i>Majun Murawwah al-Arwah</i>	1 g with Maul-Laham do Atisha (60 ml) or milk (250 ml)/orally	It is a general tonic, and nerve tonic and aphrodisiac properties, so used in weakness of sexual and vital organs. ³
10.	<i>Mufarrih Azam</i>	5 g/orally	Due to the tonic effect for vatal organs and stomach, it is used in weakness of vital organs, stomach and flatulence ³
11.	<i>Mufarrih Yaqooti Motadil</i>	5 g/orally	Due to the tonic effect for general body, heart, liver and brain, it is used in general weakness, cardiac weakness, hepatargia, weakness of brain and palpitation ³
12.	<i>Safoof Lajward</i>	5-10g/orally	Due to it evaquent of black bile, laxative, and exhilarant effects, it is usefull in Melancholia ²⁶
13.	<i>Tiryraq-i-Zahab</i>	3-5g/orally	Blood purifier, cholagogue, melanagogue properties make it useful for melancholia, epilepsy, leprosy, jaundice, etc. ²⁶
14.	<i>Yaquti Har</i>	5g in the morning	Tonic to vital organs and used to treat cold diseases ²
15.	<i>Yaquti Mo'tadil</i>	3-5g with Badraqa (vehicle)	Tonic to vital organs and exhilarant actions it is used to treat palpitation, fearfulness ²

Mineralogy of *Lapis lazuli*:

Lajward (*Lapis lazuli*) *Lapis lazuli* is a gemstone with a deep azure blue color. It consists chiefly of Lazurite, a mineral composed of Sodium, Aluminium, Silicon, Oxygen and Sulphur,²⁷ in which the amount of SO₄, S, Cl can vary considerably; it also contains calcite,

CaCO₃, Sodalite, Pyrite, Dolomite (Ca,Mg)CO₃,FeS₂ etc. Some other constituents may be present with varying degrees of translucency such as Afghanit, Albite, Haiünit, Nepheline, Nosean, Sodalite, Marialite, Mica, Pyroxene, Forsterite etc. ⁶ Augite, diopside, and enstatite; hornblende are also present in it.

CONCLUSION:

Lapis lazuli is a precious gemstone used as medicine and valued by many over the ages. It is one of the favorite drugs of Unani physicians to treat melancholic disorders. It is one of the most important ingredients in various compound formulation and is used effectively for alleviating several diseases, especially those which occurs due to *sawda* (black bile), like melancholia, cardiac and skin diseases. However there are no studies that have been done on this precious medicine, so this paper is prepared for highlighting the hidden medicinal uses of the stone and further necessary pharmacological researches.

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