

THERAPEUTIC USES OF GANDHAK IN UNANI SYSTEM OF MEDICINE- A  
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## ABSTRACT

*Gandhak* (Sulphur) is a significant component, holds a pivotal role in Unani system of medicine, and is known for its diverse therapeutic properties. The review discusses the pharmacological action and therapeutic uses in treating various ailments in the perspective of Unani medicine. The study highlights its use as a potent antimicrobial, antifungal and anti-inflammatory agent. *Gandhak* is employed in the treatment of various skin diseases for many years, such as tinea, eczema, psoriasis, scabies, etc., due to its detoxifying, purifying, and keratolytic properties. It also plays a crucial role in digestive health, treating conditions like dysentery and diarrhea by eliminating intestinal parasites. Additionally, *Gandhak* is valued for its rejuvenating effects, promoting overall vitality and longevity. Its use in respiratory disorders, particularly in the management of chronic cough and asthma, further underscores its therapeutic versatility. This study emphasizes the efficacy of *Gandhak* in both external and internal applications and reflects its integral role in traditional systems of medicine

**KEYWORD:-** *Gandhak*, Sulfur, Skin, GIT and Respiratory disorders, Unani Medicine.INTRODUCTION AND HISTORICAL ASPECT OF  
THERAPEUTIC USES OF GANDHAK

Sulfur, commonly referred to as *Gandhak* in Unani medicine, has long been revered for its multifaceted therapeutic properties. Unani scholars have meticulously documented its applications across various classical texts where it is particularly noted for its efficacy in treating dermatological, gastrointestinal and respiratory disorders. Al-Qanoon fit-Tib of Ibn Sina provides a foundational understanding of the cleansing and antiseptic properties of sulfur with a specific focus on its use in dermatological conditions.<sup>[1]</sup> Expanding on this, Zakarya Razi mentioned in his book "Al-Hawi fit Tib" dual applications of *Gandhak* in both external for skin disorders and internal for digestive and respiratory diseases, highlighting its systemic benefits.<sup>[2]</sup> *Abul Quasim Zahrawi*, in his book *Kitabut-Tasrif*, emphasizes the practical application of *Gandhak* in regimetal therapy, demonstrating its versatility across different treatment modalities.<sup>[3]</sup> Similarly, *Ali Ibn Abbas Majusi* in his book "*Kamilus Sana*" explores the broader therapeutic implications of sulfur and affirms its role in various Unani therapeutic practices.<sup>[4]</sup> Further exploration of the therapeutic use of *Gandhak* is found in "*Kitab al-Jamiul-Mufradat al-Adviya wal-Aghziya*,"

written by Najib al-Din Samarqandi, which outlines its use in formulations aimed at treating chronic skin diseases.<sup>[5]</sup> *Abu Raihan Biruni*, in his book "*Kitabus Saydanah fit-Tib*," delves into the pharmaceutical preparation of sulfur and its application in treating skin, respiratory and digestive disorders.<sup>[6]</sup> *Shirazi*, in his book "*Kitab-Tuhfatus -Sa'diyah fit-Tib*," offers an extensive discussion on the role of *Gandhak* in treating skin and respiratory conditions as well as its detoxifying properties.<sup>[7]</sup> Dawud Antaki stated in his book "*Tazkiratu Ulil-Albab wal-Jami' lil-ujb wal-ajaaeb*" that further supported these findings by documenting regimetal use of *Gandhak* in chronic ailments.<sup>[8]</sup> *Hakim Kabirud deen* provided practical aspect of featuring *Gandhak* for treating skin conditions like eczema, psoriasis and underscoring its purifying properties.<sup>[9]</sup> *Ibnul Quf*, in his book "*Kitabul-Umda fil-Jarahat*," wrote that the use of sulfur in surgical treatments, particularly in wound care and infection prevention, is the critical role in Unani medicine.<sup>[10]</sup> *Ibn Nafis*, renowned for his contributions to physiology and medicine, discusses the use of sulfur in his concise and comprehensive text "*Al-Mujiz fit-Tib*". He highlights the purifying and antiseptic properties of *Gandhak*, particularly its effectiveness in treating skin disorders and aiding in wound healing. Ibn Nafis also

mentioned its use as a detoxifying agent in Unani therapeutic practices.<sup>[11]</sup> *Ibn Zuhr* (Avenzoar), in his book *Kitabut-Taisir*, provides detailed description of the therapeutic use of *Gandhak*. He emphasizes the external uses of *Gandhak* in the management of skin diseases and its role in regiminal therapy. He also explains significantly for its practical approach to medical field like the use of sulfur for both preventive and curative purposes.<sup>[12]</sup> *Ismail Jurjani*, in his comprehensive medical book "*Zakhira-e-Khwarazm shahi*," includes extensive discussions on the medicinal use of sulfur. He documents its applications in treating skin conditions, particularly chronic skin conditions, respiratory ailments and as a general detoxifying agent. *Jurjani* also provides detailed instructions on the preparation and dosage of *Gandhak* and highlights its importance in maintaining humoral balance. *Qarshi*, a prominent Unani scholar, discusses the use of *Gandhak* in his book "*Al-Jawahirul-*

*Muziyya fit-Tib*". His text is notable for its detailed descriptions of sulfur-based remedies and their preparations.<sup>[13,14]</sup> *Nafis Ibn ewaz kirmani* explores in his famous book "*Sharah Asbab wa Alamat*" the therapeutic properties of *Gandhak*. He discusses its use in the treatment of both internal and external conditions with focus on its role in skin and digestive health.<sup>[15]</sup>

#### Origin of *gandhak*

It is one of the most common mineral elements found on earth. Unani scholars wrote about the origin of *Gandhak*, that it is produced by the dry vapors with subtle vapors (*Khushk and latif bukharat*) of soil on which it takes sunlight, then by the heat of the sun, it shines and takes light weight, then it turns into mineral (*Gandhak*) so it produces fire without smoke and easily turns into powder.<sup>[16]</sup>



#### Places of origin of *gandhak*

Pure sulfur is naturally found in a limited amount that is called "sulfide." Sulfur is mostly found in the form of chemical compounds like lead sulfide (PbS), zinc sulfide (ZnS), iron sulfide (FeS), copper sulfide (Cu<sub>2</sub>S), magnesium sulphate (MgSO<sub>4</sub>), calcium sulphate (CaSO<sub>4</sub>), sodium sulphate (Na<sub>2</sub>SO<sub>4</sub>), and hydrogen sulfide (H<sub>2</sub>S). It is generally extracted from volcanic regions and areas with high geothermal activity like Sisli, Italy; Afghanistan; Kashmir; Berma China, Russia and Nepal. It is found in both the earth and sea.<sup>[17]</sup>

**Types:** It is of 4 types.

1. *Gandhak amla saar* (Yellow Sulfur), it shines and is internally used as a medicine after the detoxifying process.
2. *Danda Gandhak* (White Sulfur), it is white color, does not shine and externally apply as a *marham*.<sup>[18]</sup>
3. *Gandhak-e-Siah* (Black Sulfur) dark grey to black color, rarely used in refined Unani formulations due to impurity.
4. *Gandhak-e-Marjan* (Coralline Sulfur), it is red color like a parrot's beak, highly purified and potent form, used in complex formulations for nervous disorders.<sup>[19]</sup>

**Melting point:** Sulphur is melted at 239°F and turns into liquid like water; it begins to be solid when temperature is raised to 430°F-480°F, and again it turns into liquid at 480°F-750°F.

**Temperament:** Hot and dry at 3rd degree & as per Ibn Sina till 4<sup>th</sup> degree.<sup>[20]</sup>

**Dose:** 500 mg -1gm

**Muzir:** *Me'da wa Dimagh*

**Muslih:** *Kateera, fresh milk, Gul-e-Banafsha*

**Muddat-e-Hayat:** The potency of the medicine remains effective for three years.<sup>[21]</sup>

#### Etymology and Synonyms of *gandhak*

1. ***Gandhak* (*Gandhaka*):** The term "*Gandhak*" originates from the Sanskrit word "*Gandhaka*," which is derived from "*Gandh*," meaning "smell" or "odor."<sup>[22]</sup>
2. ***Kibrīt* (كبريت):** The word "*Kibrīt*" is Arabic, signifying sulfur. The root of "*Kibrīt*" may be linked to the word "*kabīr*," meaning "great" or "powerful," indicating importance of sulfur in early alchemy and medicine.<sup>[23]</sup>

3. *Sufra* (صفرة): Derived from the Arabic word "Sufra," which means "yellow," this term refers to the typical color of sulfur.<sup>[24]</sup>
4. The Persian term "گوگرد" (*gūgard*), meaning sulfur, traces its roots to Middle Persian "gōgird". This Middle Persian term is also cognate with Sogdian "γōkāt", indicating a shared linguistic heritage among ancient Iranian languages.<sup>[25]</sup>

#### AF'AL (ACTIONS)

*Mulattif* (Demulcent), *Jazib-e-rautubat* (Absorbent of moisture), *Qatil-e-jarasim* (Germicidal / Antimicrobial), *Dafi'-i-ta'affun* (Deodorant), *Muqawwi wa Musammin-e-badan* (Tonic and fattening agent for the body), *Mushtahi-i-ta'am* (Appetite stimulant), *Musaffi-i-khoon* (Blood purifier), *Mulayyin-e-tab' wa safrā* (Laxative for temperament and bile), *Munaffis-e-balgham* (Expectorant of phlegm), *Jaali* (Detergent /removes morbid material from surface), *Mujaffif* (Desiccant), *Musakkin-e-hiddat-e-khoon wa safrā* (Relieves heat of blood and bile), *Muhallil-e-waram* (Anti-inflammatory), *Haabis-e-dam* (Haemostatic), *Muaddil* (Balancer of temperament), *Dafe amraz-e-saudawi* (Prevents melancholic diseases), *Muwallid-e-mani* (Aphrodisiac), *Kasir-e-riyah* (Carminative).

#### Functions and Properties of *gandhak*

*Gandhak* is a non-metal element and acts like an enzyme with several medicines in USM. If it is taken orally, it remains the same till stomach due to not dissolving by saliva from mouth and passes to stomach without any changes, therefore, it has no effect on the stomach. However, when sulfur reaches the intestines, a portion of it converts into sulfide and hydrogen sulfide, due to this, the intestines experience irritation, their secretion increases and their peristaltic movement accelerates, resulting in soft stools. Therefore, its work as laxative. So that, it is used in hemorrhoids, rectal fissures and mild constipation, besides it relieves from the pain of hemorrhoids and external warts. *Atibba* say that if pure sulfur is applied to the skin, it has little to no effect.

However, when this substance is mixed with oil or fat and applied, a portion of it converts into hydrogen sulfide (H<sub>2</sub>S). This causes slight irritation to the skin the pores expand and veins dilate, if the skin is delicate, sometimes inflammatory pustules may appear. It plays a crucial role in maintaining the health of skin, connective tissues, muscles, bones, teeth, and hair.

It regulates various metabolic processes, which are essential for overall bodily function. It helps repair and build tissues, support immune function, and contribute to the production of enzymes and hormones that regulate key physiological activities. *Atibba* believe that it is potent anti-microbial, so it is given to patients with Pulmonary TB and GIT disorders with *Sharbat Ejaz* or *Khameera khashkhash*. It is beneficial for patients with several skin disorders due to be blood purifier like *Chambal*, *Naar farsi* (Eczema), *Juzam*, (Leprosy) *Basoor*

*labniya* (Acne vulgaris), *Jarb wa hikka wa Quba* (Scabies and Tinea) while, it has *Qatil jarasim*, *mojaffif* and *jaali* effect, so it is applied externally alone or with other drugs as a *marham* on various skin diseases like *Qoruhe ratba*, *Sa'fa ratab*, *Aakila*, *Daus sa'lab*, *Daul hayya*, *Bahaq wa Bars*. It is also applied locally for arthritis, splenomegally to dissolve the inflamed conditions. Due to expectorant effect, it is given to respiratory patients like whooping cough, asthma and haemoptytic condition. It is also applied for emollient effect and absorb of venom and toxins in scorpion biting sites of the body. Despite its *turshi*, this is considered an aphrodisiac and semenogenic. It is *Mohassin-e-laun* that makes body's color pretty. In epilepsy, paralysis and migraine, nasal inhalation is beneficial. Sulfur is a component of many plants in addition to human like garlic, onion, fish and beans. It is found in natural springs' water of some countries where sulfur is dissolved. Bathing in such water cures several chronic skin diseases, chronic nervous diseases, joint disorders and *Baul-e-zulali*, bath in *gandhak* dissolved springs' water induces sweating, which helps to cure the disease. Sulfur is a powerful purifier and deodorizer. Lotion of *gandhak* is also used for relief of pain in knee osteoarthritis, sciatica and gout. It helps relief toothache. Due to its excessive warmth and pungency, it is used to cleanse and purify homes. To do this, sulfur is burned and allowed to spread. However, its use should be stopped when a parrot or pet bird is kept in the house. It is an emollient, warming and absorbent with a slightly yellowish tint. It is beneficial in colds, catarrh, and moist conditions, as it expectorates phlegm and removes excessive dampness, it is anti-jaundice and emmenagogue.<sup>[26, 18, 20, 27, 19, 28, 29, 16, 17, 30, 31, 32, 33, 34, 35, 36]</sup>

#### CONCLUSION

*Gandhak* (Sulfur) has a long-standing history of therapeutic use in Unani medicine, revered for its diverse healing properties. From treating dermatological, gastrointestinal, neurological and respiratory disorders to its detoxifying and purifying effects, sulfur has proven itself as an essential element in traditional medical practices. Its applications, as documented by early Unani scholars such as *Deesquireedus*, *Ibn Sina*, *Zakariya Razi*, and *Ibn Nafis* highlight its versatility both internally and externally. Whether used for cleansing the body, alleviating skin conditions or improving digestive health. *Gandhak* remains a cornerstone of natural healing with enduring significance in ancient and modern medicine.

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