STM JOURNALS

Journal of
AYUSH: Ayurveda, Yoga, Unani, Siddha and Homeopathy

ISSN: 2278-2214 (Online)
ISSN: 2321-6484 (Print)
Volume 14, Issue 3, 2025
September–December
DOI (Journal): 10.37591/JoAYUSH

https://journals.stmjournals.com/joayush

Review JoAYUSH

Post Halela Zard (*Terminalia chebula* Retz.): A Review on Medicinal Utility from the Perspective of Unani Medicine

Patel Mohd Furqan Ahmad[1,*], Yezam Akhtar[2], Sana Kauser Ateeque Ahmed[3]

Abstract

Halela Zard (Terminalia chebula Retz.), commonly known as Haritaki in Sanskrit and Chebulic Myrobalan in English, is a cornerstone of Unani pharmacotherapy due to its remarkable therapeutic versatility. The dried pericarp of its fruit has been extensively employed in traditional medicine for the treatment of a wide spectrum of ailments, ranging from digestive disturbances to chronic systemic disorders. This review aims to present a comprehensive overview of Halela Zard by integrating classical Unani literature with modern scientific findings, thereby reinforcing its status as a valuable medicinal agent. Classical Unani texts describe Halela Zard as possessing a cold and dry temperament (2°) and enumerate its key actions as a muhallil (resolvent), daaf-e-samoom (detoxicant), qabiz (astringent), muqawwi dimagh (brain tonic), and munaqqi-e-dam (blood purifier). It is a principal ingredient in several canonical compound formulations, notably Itrifal Zamani and Itrifal Ustukhuddoos, used for conditions like chronic headaches, melancholia, and digestive weakness. Botanical and phytochemical investigations have identified several active constituents, including chebulagic acid, chebulinic acid, gallic acid, ellagic acid, and phloroglucinol, which are known for their potent antioxidant, antimicrobial, and hepatoprotective properties. Pharmacological studies further substantiate its efficacy in treating bacterial and fungal infections, oxidative stress-related conditions, and promoting wound healing. The convergence of Unani wisdom with modern evidence affirms the enduring relevance of Halela Zard in both traditional and integrative medicine. This review advocates for further clinical trials and interdisciplinary research to explore its full therapeutic potential, particularly as a safe and effective adjunct in managing chronic inflammatory diseases, microbial infections, and neurological disorders.

Keywords: Halela Zard, *Terminalia chebula*, Unani medicine, phytochemistry, pharmacological activities

***Author for Correspondence**
Patel Mohd Furqan Ahmad
E-mail: drfurqanpatel@gmail.com

[1]Assistant Professor, Department of Moalijat, Mohammadia Tibbiya College and Assayer Hospital, Malegaon, Nashik, Maharashtra, India
[2]Assistant Professor, Department of Tahaffuzi wa Samaji Tib (Community Medicine), Mohammadia Tibbia College & Assayer Hospital, Malegaon, Maharashtra, India
[3]Assistant Professor, Department of Mahiyatul Amraz (Pathology), Mohammadia Tibbia College & Assayer Hospital, Malegaon, Maharashtra, India

Received Date: June 03, 2025
Accepted Date: June 21, 2025
Published Date: June 22, 2025

Citation: Patel Mohd Furqan Ahmad, Yezam Akhtar, Sana Kauser Ateeque Ahmed. Post Halela Zard (*Terminalia chebula* Retz.): A Review on Medicinal Utility from the Perspective of Unani Medicine. Journal of AYUSH: Ayurveda, Yoga, Unani, Siddha and Homeopathy. 2025; 14(3): 19–26p.

INTRODUCTION

Terminalia chebula Retz., belonging to the family *Combretaceae* [1–3], comprises the dried outer pericarp of ripe, mature fruits. In Sanskrit, it is known by several names, such as *Haritaki*, *Abhaya*, and *Pathya*, and has been highly extolled by ancient Hindu scholars as a potent alterative and tonic. A mythological origin is also associated with the plant: it is believed that when Indra drank *Amrit* in heaven, a drop of it fell to earth, giving rise to this sacred tree. Indian sources describe seven types of *Halela Zard*, which are essentially the same fruit at various maturity stages. In traditional texts, myrobalans are metaphorically compared to an "intelligent housewife," suggesting their profound digestive regulatory effects [4]. Vernacular Names are depicted in Table 1.

Table 1. Vernacular names [5, 6].

Language	Name(s)
English	Chebulic Myrobalan [2–3, 7, 8]
Arabic	Halilaja [2], Halela [3], Ihlilaj [4]
Hindi	Harara [3, 7], Pile Har [2], Har [7]
Sanskrit	Haritaki [2, 3]
Urdu	Halela [2], Halela Zard [2], Haejard [7, 8]

Scientific Classification [9]

- *Kingdom:* Plantae.
- *Subkingdom:* Tracheobionta (Vascular plants).
- *Superdivision:* Spermatophyta (Seed plants).
- *Division (Phylum):* Magnoliophyta (Flowering plants).
- *Class:* Magnoliopsida (Dicotyledons).
- *Subclass:* Rosidae.
- *Order:* Myrtales.
- *Family:* Combretaceae.
- *Genus: Terminalia.*
- *Species: Terminalia chebula* Retz.

MATERIAL AND METHODOLOGY

Classical Unani references regarding *Post Halela Zard* (*Terminalia chebula* Retz.), including its temperament (*Mizaj*), medicinal attributes, and traditional uses, were sourced from authoritative Unani texts. Additional data on its botanical, pharmacognostic, phytochemical, and pharmacological properties were collected through an extensive literature search using online databases such as PubMed**,** ScienceDirect**,** Wiley Online Library**,** Google Scholar, and Research Gate.

BOTANICAL DESCRIPTION

Habitat and Distribution

The tree is widely distributed across India, particularly in deciduous forests and regions with moderate rainfall [2]. It is found from the Ravi River eastwards to West Bengal and Assam and ascends to 1500 meters in the Himalayas. It is also commonly seen in Bihar, Odisha, Madhya Pradesh, the Deccan region, and southern India [10].

Mahiyat (Unani Description)

The drug is the fruit of an Indian tree [11]. The leaves measure 4–8 inches, are oblong, greenish-white, and rough in texture. Flowers are pale yellow or white. The fruit appears in various shapes and sizes depending on its maturity – long or small, round or oblong – with five longitudinal ridges visible when the pericarp dries.

Fruits that fall before maturing and turn black are known as *Halela Siyah*. Those that ripen fully on the tree are called *Halela Zard*, while fully mature, thick, and fleshy ones are termed *Halela Kabuli*.

As per *Makhzanul Advia*, the fruit undergoes several named stages of development.

- *Halela Zira:* Size of cumin.
- *Halela Jawi:* Size of barley.
- *Halela Zangi/Hindi:* Size of a raisin.
- *Halela Cheeni:* Yellowish, half-mature.
- *Halela Asfar:* Nearing maturity.
- *Halela Kabuli:* Fully mature [4].

Among these, the ideal *Halela Zard* is described as thick, heavy, greenish–yellow or reddish–yellow in color, and free from wrinkles [12, 13].

MODERN DESCRIPTION

Terminalia chebula is a moderate to large deciduous tree – large when grown in fertile soils and moderate in dry, rocky regions [14]. It typically attains a height of 15–24 meters and a girth of 1.5–2.4 meters, with a cylindrical bole of 4–9 meters, a rounded crown, and wide-spreading branches [15]. The bark is about 6 mm thick, dark brown, and longitudinally fissured, exfoliating in woody scales [7, 15]. The leaves are 7–20 cm long and 4–8 cm wide, becoming glabrous or nearly glabrous at maturity. They are not clustered and are arranged alternately or sub-oppositely, with an elliptic-oblong shape, acute apex, and rounded or cordate base. Petioles are around 2.5 cm long, pubescent, and usually bear two glands near the apex. The flowers are hermaphroditic, about 4 mm in diameter, sessile, dull white or yellow, and emit a strong, unpleasant odor [16]. The fruits are glabrous, shiny, ellipsoidal, obovoid, or ovoid drupes, yellow to orange–brown in color, faintly angled, and up to 3.75 cm long. The seeds are hard and pale yellow in appearance.

PROPERTIES IN UNANI CLASSICAL TEXT [3, 14]

- *Temperament (Mizāj):* Cold 10 and Dry 2 [14, 16–17]
- *Parts used (Ajzāʾ-i-Mustʿamila):* Dried fruits, mostly the outer skin of the fruits.
- *Therapeutic Dosage (Miqdār-i-Khurāk):* 10–20 gm [17]. For decoction and infusion, it is 35 gm and 10.5–17.5 gm, respectively [18].

Adverse Effects (Maẓarrāt)

- It is harmful for the intestine and rectum [1].
- It causes gripe, colitis [130], constipation, and leaning of the body [1].
- It produces roughness in the stomach [1].
- It is contraindicated in acute cough, acute diarrhea, and the early stages of dysentery [19].

Correctives (Muṣliḥ): Sapistan and Unnab Vilāyati [1, 20] Roghan-e-Bādām [1, 20] Qand, equal or double in weight [17–20].

- *Badal (Substitutes):* Poste Anār [1, 3] Tukhme Kasoos, Afsanteen, Halela Siyāh, Banafsha (three times its weight), Khubbāzī (half its weight), Māzū (half its weight), and Habbul Ās (one-fifth its weight) [1].
- *Important Unani Formulations:* Itrifāl Kishnīzī, Itrifāl Zamānī, Itrifāl Ustukhuddūs, Majūn Kundur [2].

The fruits of the plant can be seen growing in clusters on the tree (Figure 1) and are later harvested and dried (Figure 2). After drying, they are sorted based on size (Figure 3) and finally ground into a fine powder for medicinal use (Figure 4).

Figure 1. Fruiting plant.

Figure 2. Dried fruits (magnified).

Figure 3. Fruits.

Figure 4. Fruit powder.

PHYTOCHEMICAL CONSTITUENTS

Halela Zard (Myrobalan) contains astringent principles, primarily tannins, with tannic acid constituting approximately 45% and a significant amount of gallic acid also present. The tannins in myrobalan belong to the pyrogallol type. Among the hydrolyzable tannins, chebulagic acid, chebulinic acid, and corilagin are the major constituents [10, 15, 21]. Additionally, myrobalan contains mucilage and a brown coloring matter [3, 4].

The carbohydrates present include glucose and sorbitol as major constituents, along with approximately 1% each of fructose and sucrose. Smaller amounts of gentiobiose and trace levels of arabinose, maltose, rhamnose, and xylose are also found. Eighteen typical plant amino acids have been identified, along with small quantities of organic acids such as phosphoric, succinic, quinic, shikimic, dihydroshikimic, and dehydroshikimic acids [15].

A new ellagitannin, terchebulin, has been isolated, alongside punicalagin, teaflavin A, and a new triterpene, chebupentol. Other notable compounds include arjungenin, terminoic acid, and arjunolic acid. Antioxidant constituents, such as phloroglucinol and pyrogallol, have also been identified, along with ferulic, vanillic, *p*-coumaric, and caffeic acids [13].

THERAPEUTIC USES IN UNANI

Medicine actions according to ethnobotanical literature are shown in Table 2.

Table 2. Medicinal actions (Af'al).

As per Unani Literature	As per Ethnobotanical Literature
Muqawwī Lissah wa Dandān [1, 7, 22]	Dentifrice [7, 10, 21, 22, 28, 29]
Qābiẓ (Astringent) [23, 24]	Astringent [7, 29, 30]
Mushil-e-Ṣafrā [2, 10, 15, 21, 23]	Purgative removing bile [12, 30]
Mushil-e-Balgham-e-Raqīq (Phlegmagogue) [10, 15, 18, 25]	Purgative removing phlegm [28, 30]
Muqawwī Miʿda (Stomachic) [1, 2, 3, 21]	Stomachic [3, 4, 24, 31]
Dāfiʿ Kha fqān [1, 21]	Cardiotonic [4, 7, 31]
Hāzim (Digestive) [1]	Digestive [4]
Mudammil-e-Qurūḥ (Cicatrisant) [26]	Wound healer [4, 3]
Muḥallil-e-Waram-e-Ṭiḥāl (Anti-inflammatory of splenitis) [1,3]	Antiseptic [4]
Mujaffif-e-Ruṭūbat-e-Miʿda [22]	Antitumor [4]
Qāṭiʿ Ḥiddat-e-Ṣafrā (Antibilious) [2]	Antiviral [4]
Muṣaffī Khūn (Blood purifier) [27, 28]	Antibacterial [4, 10]
Muqawwī Dimāgh (Brain tonic) [1–13, 7, 21, 23, 28]	Tonic [1, 4, 15, 31]
Mufattiḥ Sudūd (Deobstruent) [1, 21, 22]	Diuretic [4, 31]
Dāfiʿ Ṣudāʿ [21, 31]	Anthelmintic [1, 10, 27]
Mushtahī (Appetizer) [1]	Purgative [21, 22, 31]
Muqawwī wa Mujallī Baṣar (Improves Vision) [1, 7, 21, 22, 27, 28]	Laxative [4, 28, 29]
Muqawwī Ḥawās, Zihn wa Ḥāfiẓa (Memory Strengthener) [1, 7, 10, 21, 22]	Alternative [4, 26, 27, 31]

Medicine uses according to ethnobotanical literature are shown in Table 3.

Table 3. Medicinal uses (Istemal).

As per Unani Literature	As per Ethnobotanical Literature
Istisqā (Ascites) [1, 22, 23, 30]	Ascites [1, 4]
Juzām (Leprosy) [3, 21, 22]	Leprosy [4, 22]
Amrāz-e-Tiḥāl (Diseases of spleen) [7, 32]	Enlarged liver and spleen [4, 22, 34]
Zakhm wa Qurūḥ (Wounds and Ulcers) [24]	Chronic ulcers and wounds [1, 14, 22, 33]
Bawāsīr (Hemorrhoids) [1, 22, 24, 32]	Hemorrhoids [22, 27, 30, 31]
Ishāl (Diarrhoea) [1]	Diarrhea and dysentery [4, 20, 35]
Dimāghī Amrāz (Mental disorder) [14]	Epilepsy [4, 41]
Buṭlān-e-Istiḥā (Anorexia) [1]	Anorexia [4, 33]
Amrāz-e-ʿAin (Ocular disorders) [14]	Conjunctivitis [4]
Ḥummā Muzmina (Chronic fevers) [1, 22]	Fevers [4]
Qūlanj (Colic) [31]	Colic [4]
Fālij (Paralysis) [7]	Paralysis [4]
Wajaʿ al-Dandān (Toothache) [1]	Sore mouth, stomatitis, spongy and ulcerated gums [30]
	Loss of memory [30]
	Gout and rheumatism [4, 30]
	Atherosclerosis [4]
	Anemia [4]

PHARMACOLOGICAL ACTIONS

Antibacterial Activity

The antibacterial potential of Chebulic myrobalan extracts – cold aqueous, hot aqueous, and ethanol – was evaluated against multidrug-resistant bacterial pathogens. This included clinical isolations, such as methicillin-resistant *Staphylococcus aureus* and trimethoprim-sulfamethoxazole-resistant uropathogenic *Escherichia coli*, alongside standard control strains. Antibacterial efficacy was assessed using standard growth inhibition assays. All tested extracts exhibited strain-specific antibacterial activity, with the ethanol extract showing the most potent effect against *E. coli*, and the hot aqueous extract demonstrating broad-spectrum activity against all tested strains. These promising results suggest that bioactive compounds present in the plant material may offer an effective alternative antimicrobial strategy against multidrug-resistant pathogens [34].

Anti-Salmonella Activity

The aqueous extract of *Terminalia chebula* fruit was evaluated for anti-*Salmonella* activity both in vitro and in vivo. The extract exhibited inhibitory activity against *Salmonella typhi* and *S. typhimurium*, producing clear zones of inhibition in vitro. At concentrations of 10, 12, and 15 mg/mL, the extract was bacteriostatic, while concentrations above this were found to be highly bactericidal. In vivo, mice pretreated with doses of 100 (T100), 200 (T200), and 500 mg/kg (T500) body weight for 30 days and challenged with 100,000 CFU of *S. typhimurium* demonstrated protection rates of 83%, 83%, and 100%, respectively. These findings were supported by bacterial clearance studies from liver tissues and enzymatic assessments of alanine aminotransferase (ALT) and aspartate aminotransferase (AST). The results indicate that regular intake of *T. chebula* may prevent *Salmonella* infections and reduce the risk of typhoid [35, 36].

Antioxidant Activity

The antioxidant activity of *Terminalia chebula* aqueous extract was studied in relation to age-associated oxidative stress in the heart tissues of young and aged rats. Rats were administered 200 mg/kg body weight of the extract in 1.5 mL sterile water daily for four weeks. Control groups received sterile water only. In aged control rats, elevated levels of malondialdehyde (MDA) were observed, along

with decreased levels of antioxidant enzymes, such as superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GPx), as well as reduced concentrations of glutathione (GSH), vitamin C, and vitamin E. Administration of *T. chebula* significantly restored these antioxidant parameters and reduced MDA levels, indicating its potential role in mitigating oxidative damage by restoring the oxidant-antioxidant balance in heart tissues [37, 38].

Wound Healing Activity

The hydroalcoholic extract of *T. chebula* fruit was assessed for its wound healing properties in alloxan-induced diabetic rats using excision and dead space wound models. The extract-treated animals showed an 82% reduction in wound area compared to 40% in control animals. Additionally, extract-treated wounds exhibited faster epithelialization. There was a significant increase in both wet and dry granulation tissue weight in the treated group compared to controls. These findings clearly suggest that *T. chebula* significantly promotes wound healing in diabetic conditions, and further studies in humans are recommended [39, 40].

FUTURE PERSPECTIVE AND CONCLUSIONS

Halela Zard holds a prominent place in Unani medicine for its multifaceted therapeutic benefits. Its efficacy in gastrointestinal, neurological, hepatic, and infectious conditions is well-documented in classical texts and supported by contemporary research. The alignment between traditional knowledge and modern pharmacological evidence underscores its significance as a potent herbal remedy.

Further scientific exploration through well-designed clinical trials is essential to validate its safety, efficacy, and dosage in various disease conditions. Investigations into its molecular mechanisms, standardization of active constituents, and formulation development could facilitate its integration into modern medical practice as a standardized phytopharmaceutical agent.

REFERENCES

1. Kokate CK, Purohit AP, Gokhale SB. Pharmacognosy. 42nd ed. Pune: Nirali Prakashan; 2009. p. 8.23–8.30, 9.4–9.5, 11.56–11.58, 11.103–11.105, 13.63–13.65.
2. Khan MA. Haziq. Delhi: Minjar Hindustani Dawa Khana; 1987. p. 73.
3. Nadkarni KM. Indian Materia Medica. Vol. 1. 3rd ed. Mumbai: Popular Prakashan; 2009. p. 73–74, 172–174, 242–246, 969–972, 1205–1210, 1308–1315.
4. Dymock W, Warden CJH, Hooper D. Pharmacographia Indica: A History of the Principal Drugs of Vegetable Origin. Vol. 2. New Delhi: Srishti Book Distributors; 2005. p. 1–5, 428–437.
5. Weber H, Holme I, Amlie E. The natural course of acute sciatica with nerve root symptoms in a double-blind placebo-controlled trial evaluating the effect of piroxicam. Spine (Phila Pa 1976). 1993;18(11):1433–8.
6. Valat JP, Genevay S, Marty M, Rozenberg S, Koes B. Sciatica. Best Pract Res Clin Rheumatol. 2010;24(2):241–252.
7. Khare CP. Indian Medicinal Plants: An Illustrated Dictionary. New York: Springer; 2007. p. 36–37, 80–81, 113–114, 492, 653–654, 733–734.
8. Kritikar KR, Basu BD. Indian Medicinal Plants with Illustrations. Vol. 5. 2nd ed. Dehradun: Oriental Enterprises; 2003. p. 1424–1428.
9. Adams JC, Hamblen DL. Outline of Orthopaedics. 13th ed. Edinburgh: Churchill Livingstone; 2001. p. 198–205.
10. Sharma PC, Yelne MB, Dennis TJ. Database on Medicinal Plants Used in Ayurveda. Vol. 3. New Delhi: CCRAS, Dept. of AYUSH, Govt. of India; 2005. p. 282–286.
11. Ghani N. Khazainul Advia. New Delhi: Idara Kitab-ul-Shifa; 2002. p. 113, 175–178, 308–312, 335–336, 861–862, 869–870, 1231–1233, 1355–1356.
12. Majoosi IA. Kamilus Sana'a. Vol. 2. New Delhi: Idara Kitab-us-Shifa; 2010. p. 155, 159, 165.
13. Baitar I. Aljame al Mufradat al Advia wa al Aghzia. Vol. 4. (Urdu translation by CCRUM). New Delhi: Dept of AYUSH, Govt. of India; 2003. p. 67–68, 436–439.

14. Tariq MNA. Taj ul Mufradat. New Delhi: Idara Kitab-us-Shifa; 2010. p. 17–21, 39–41, 105–107, 123, 460, 659–661, 677.
15. Anonymous. The Wealth of India. Vol. 10. New Delhi: CSIR; 2003. p. 171–177.
16. Haleem MA. Mufradate Azizi. New Delhi: CCRUM, Dept of AYUSH, Govt. of India; 2009. p. 17, 21, 26, 29, 33, 36, 52, 54, 55, 66, 85, 91, 102, 115, 117.
17. Kabiruddin M. Makhzanul Mufradat yani Kitab ul Advia. New Delhi: Idarah Kitab-ul-Shifa; 2007. p. 46–47, 89–90, 99, 270–272, 382–384, 415–416.
18. Baghdadi IH. Almukhtarat fit Tibb. Part II. (Urdu translation by CCRUM). New Delhi: Dept of AYUSH, Govt. of India; 2005. p. 118, 126, 209, 228–229, 239–240, 248.
19. Duke JA. Handbook of Medicinal Herbs. 2nd ed. India: Replika Press; 2002. p. 17–18, 45, 98–99, 180–181, 327–329, 682–683.
20. Khan HA. Majmaul Behrain. Lucknow: Munshi Naval Kishore; YNM. p. 134, 152, 154, 157, 162.
21. Qadry JS. Pharmacognosy. Ahmedabad: B.S. Shah Prakashan; 2007. p. 193–5, 239–42, 302, 317–9, 396–7.
22. Tabri AR. Firdaus ul Hikmat. Deoband: Faisal Publication; 2002. p. 358–9, 362–6.
23. Momin MH. Tohfatul Momineen. Matba Hasani; 1272 H. p. 40, 136, 147, 155, 165, 175, 188, 195.
24. Chopra RN. Glossary of Indian Medicinal Plants. New Delhi: NISCAIR; 2002. p. 13, 33, 46–7, 73, 194, 242, 261.
25. Anonymous. The Useful Plants of India. New Delhi: NISCAIR; 2006. p. 29–30, 66, 98, 460, 628, 701.
26. Gazrooni MS Alsadidi. Lucknow: Munshi Naval Kishore; 1311 H. p. 159–63, 190–1, 200–1.
27. Prajapati ND, Kumar U. Agro's Dictionary of Medicinal Plants. Jodhpur: Agrobios; 2003. p. 19, 44, 60, 88, 257, 343, 382.
28. Bag A, Bhattacharyya SK, Bharti P, Pal NK, Chattopadhyay RR. Evaluation of antibacterial properties of Terminalia chebula extracts against MRSA and resistant E. coli. Afr J Plant Sci. 2009;3(2):25–9.
29. Khan KH, Jain SK. Regular intake of Terminalia chebula reduces typhoid fever risk. Adv Biotech. 2009 Mar;8:10–5.
30. Mahesh R, Begum VMH. Antioxidant effect of Terminalia chebula on age-related oxidative stress. Iran J Pharmacol Ther. 2007;6(2):197–201.
31. Singh MP, Sharma CS. Wound healing activity of Terminalia chebula in diabetic rats. Int J PharmTech Res. 2009;1(4):1267–70.
32. Ebadi M. Pharmacodynamic Basis of Herbal Medicine. 2nd ed. USA: CRC Press; 2007. p. 275.
33. Cerquaglia C, Diaco M, Nucera G, et al. Pharmacological basis of FMF treatment with colchicine. Curr Drug Targets Inflamm Allergy. 2005;4(1):117–24.
34. Konda C, Rao AG. Colchicine in dermatology. Indian J Dermatol Venereol Leprol. 2010;76(2):201–5.
35. Duke JA. Handbook of Medicinal Herbs. 2nd ed. Haryana: Replika Press; 2002. p. 17–18, 45, 98–9, 180–1, 327–9, 682–3.
36. Kabiruddin M. Makhzanul Mufradat yani Kitab ul Advia. New Delhi: Idara Kitab-us-Shifa; 2007. p. 46–7, 89–90, 99, 270–2, 382–4, 415–6.
37. Chopra RN. Glossary of Indian Medicinal Plants. New Delhi: National Institute of Science Communication and Information Resources (NISCAIR), CSIR; 2002. p. 13, 33, 46–7, 73, 194, 242, 261.
38. Nadkarni KM. Indian Materia Medica. Vol. 1. 3rd ed. Mumbai: Popular Prakashan; 2009. p. 73–4, 172–4, 242–6, 969–72, 1205–10, 1308–15.
39. Anonymous. The Useful Plants of India. New Delhi: National Institute of Science Communication and Information Resources (NISCAIR); 2006. p. 29–30, 66, 98, 460, 628, 701.
40. Gazrooni MS Alsadidi. Lucknow: Munshi Naval Kishore; 1894. p. 159–63, 190–1, 200–1.
41. Prajapati ND, Kumar U. Agro's Dictionary of Medicinal Plants. Jodhpur: Agrobios; 2003. p. 19, 44, 60, 88, 257, 343, 382.
42. Bag A, Bhattacharyya SK, Bharti P, Pal NK, Chattopadhyay RR. Evaluation of antibacterial properties of Terminalia chebula extracts against methicillin-resistant Staphylococcus aureus and uropathogenic Escherichia coli. Afr J Plant Sci. 2009;3(2):25–29.

43. Khan KH, Jain SK. Regular intake of Terminalia chebula reduces the risk of typhoid fever. Adv Biotech. 2009;8:10–15.
44. Mahesh R, Begum VMH. Antioxidant effect of Terminalia chebula on age-related oxidative stress in heart. Iran J Pharmacol Ther. 2007;6(2):197–201.
45. Singh MP, Sharma CS. Wound healing activity of Terminalia chebula in diabetic rats. Int J PharmTech Res. 2009;1(4):1267–1270.
46. Ebadi M. Pharmacodynamic Basis of Herbal Medicine. 2nd ed. Boca Raton: CRC Press; 2007. p. 275.
47. Cerquaglia C, Diaco M, Nucera G, Egina ML, Montalto M, Manna R. Pharmacological basis of Familial Mediterranean Fever treatment with colchicine. Curr Drug Targets Inflamm Allergy. 2005;4(1):117–124.
48. Konda C, Rao AG. Colchicine in dermatology. Indian J Dermatol Venereol Leprol. 2010;76(2):201–205.

