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## Review

# Therapeutic effects of *Aloe* spp. in traditional and modern medicine: A review



Maryam Akaberi<sup>a</sup>, Zahra Sobhani<sup>b</sup>, Behjat Javadi<sup>b</sup>, Amirhossein Sahebkar<sup>c,d</sup>,  
 Seyed Ahmad Emami<sup>a,b,\*</sup>

<sup>a</sup> Department of Pharmacognosy, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran

<sup>b</sup> Department of Traditional Pharmacy, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran

<sup>c</sup> Neurogenic Inflammation Research Center, Mashhad University of Medical Sciences, Mashhad, Iran

<sup>d</sup> Biotechnology Research Center, Mashhad University of Medical Sciences, Mashhad, Iran

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## ABSTRACT

Traditional medicine is a useful guide in medical sciences. In the Islamic Iranian traditional medicine, the medicinal properties of many plants have been mentioned that could be exploited in drug discovery. We aimed to explore the nature and properties of *Aloe* spp. As described in some major Islamic traditional texts including Ferdows al-Hekmah fi'l-Tibbe (The Paradise of Wisdom in Medicine), Al-Hawi fi'l-Tibb (Comprehensive Book of Medicine), Kamel al-Sanaat al-Tibbyyah (Complete Book of the Medical Art), Al-Qanun fi'l-Tibb (Canon of Medicine), Zakhireh Kharazmshahi (Treasure of Kharazmshah), and Makhzan al-Adwiah (Drug Treasure), and assess the conformity of traditional medicine instructions with the findings of modern pharmacological studies. Gastrointestinal activities, hepato-protective properties, beneficial effects against skin problems such as wounds, injuries, and infective diseases are among the most frequently mentioned properties of *Aloe* spp. Several activities of *Aloe* spp. described in traditional medicine have been the subject of recent *in vitro* and *in vivo* studies as well as clinical trials. Owing to the positive findings, different preparations of *Aloe* spp. are now present in pharmaceutical markets such as *Aloe* cosmetic products. On the other hand, there are many traditional therapeutic effects of *Aloe* spp. which have not been studied and require confirmatory experimental or clinical investigations. It is hoped that the present study could stimulate further research on the unexplored aspects of the medicinal properties of *Aloe* spp.

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\* Corresponding author at: Department of Traditional Pharmacy, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad 917751365, Iran.

E-mail addresses: [sahebkar@mums.ac.ir](mailto:sahebkar@mums.ac.ir) (A. Sahebkar), [emamia@mums.ac.ir](mailto:emamia@mums.ac.ir) (S.A. Emami).

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## 1. Introduction

Plants belonging to the genus *Aloe* have a long history of popular and traditional use in the Islamic traditional medicine (ITM). It has been used as a folk remedy for the treatment of a wide range of illnesses, including skin problems and gastrointestinal disorders. Hitherto, only few species of *Aloe* have been considered for commercial and pharmaceutical uses, of which *Aloe vera* is considered as the most widely studied and commercialized species [1–3]. *Aloe* spp. has not only been used in traditional medicine, but exhibited various pharmacological properties according to the findings of modern pharmacological studies. Numerous *in vitro* and *in vivo* pharmacological studies as well as clinical trials have confirmed the traditional uses of *Aloe* including wound healing and anti-ulcer activities. These studies have also indicated new properties such as anti-diabetic, hypoglycaemic, anti-cancer, antimicrobial, antiviral, antihyperlipidemic and anti-ulcer activities [4].

The use of plants as medicines or food stuff dates back several millennia. Nowadays, various strategies are being used to find new and effective drugs from natural sources. To this end, investigating folk and traditional medicine systems, such as Islamic traditional medicine (ITM), is a rational strategy owing to their antiquity and long-term history of human use. In ITM, a considerable attention has been paid to the qualities of individual herbs. The general and specific properties of each herb such as its nature, natural habitat, energy pattern, effects, indications, duration of action, relationships to the body organs, toxicity and contraindications, dosage, types of preparations, and antidotes are discussed in ITM [5]. In the Islamic school, expert scientists like al-Majusi (Haly Abbas), ar-Rhazi (Rhazes) and Ibn-Sina (Avicenna) could establish notable developments. In the present study, we aimed to summarize the information about *Aloe* spp. described in major ITM texts. As a secondary aim, we tried to assess the conformity of ITM instructions with the findings obtained from modern pharmacological studies. The names of books that were explored for this review are listed in Table 1.



Fig. 1. An illustration of *A. vera* as the most studied species in the genus *Aloe*.

**Table 1**  
Information regarding major ITM books that described medicinal effects of *Aloe*.

| Author                   | Living period  | Book  | Language |
|--------------------------|----------------|---|----------|
| Ahwazi Arjāni, AA.       | 930–994 C.E.   | Kamel al-Sinaah al-Tibbiyah                         | Arabic   |
| Akhawayni Bukhari, RA.   | 10th century   | Hidayat-al-Mutaallimin fi al-Tibbe                  | Persian  |
| Antaki, DO.              | 1535–1599 C.E. | Tadhkirat Oli al-Albāb wa al-Jāme le al-Ajb al-Ujāb | Arabic   |
| Ansāri, AH.              | ?–1403 C.E.    | Ekhtiyārāt Badii                                    | Persian  |
| Aqili Khorasani, MH.     | 18th century   | Makhzan al-Adwiah                                   | Persian  |
| Biruni, MA.              | 973–1048 C.E.  | Al-Saydanah   | Arabic   |
| Ghasani, AM.             | 1547–1611 C.E. | Hadiqat al-Azhār fi Māhiyyat al-ushb wa al-uqqār    | Arabic   |
| Herawi, AR.              | 10th century   | Al-Abniyah an Haqāyeq al-Adwiah                     | Persian  |
| Husseini Tonekaboni, MM. | 17th century   | Tohfah al- Momenin                                  | Persian  |
| Ibn Al-Baytār, AA.       | 1193–1248 C.E. | Al-Jāme le Mofradāt al-Adwiah wa al-Aghziyah        | Arabic   |
| Ibn Nafis Qarshi         | 1210–1288 C.E. | Al – Shamel fi al-Tibbe                             | Arabic   |
| Ibn Sina, HA.            | 980–1037 C.E.  | Al-Qānun fi al-Tibbe                                | Arabic   |
| Jorjāni, SI.             | 1042–1136 C.E. | Zakhireh Khārazmshāhi                               | Persian  |
| Jorjāni, SI.             | 1042–1136 C.E. | Al-Aghrāz al-Tibbiyah wa al-Mabāhethi al-Alāiiyah   | Persian  |
| Razi, MZ.                | 865–925 C.E.   | Al-Hāwi fi al-Tibbe                                 | Arabic   |
| Tabari, MA.              | 773–861 C.E.   | Ferdows al-Hekmah fi'l-Tibbe                        | Arabic   |
| Torkamāni YO.            | 1222–1294 C.E. | al-Mo'tamad fi al-Adwiyah al-Mofradah               | Arabic   |

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