

## Medicinal Leeches: Alive Pharmacy

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In the present article, while referring to different types of medicinal leeches and their importance, the history of world leech therapy with its inconsistency are discussed. The application of medicinal leeches reached its peak in the nineteenth century, and consequently led to the extinction of their populations in many Western countries, and then there was a drop of leech therapy. By isolating Hirudin from salivary glands, leech saliva complex compounds were again significantly welcomed in the treatment of cardiovascular diseases, organ transplantation and plastic surgery. In Iran, medicinal leeches have been used for treatment of different diseases by well-known Ancient Scientists such as Avicenna, Razi, Jorjani and Aghili Alavi Shirazi.

Medicinal leeches were approved as a traditional product by the Food and Drug Administration of the Ministry of Health and Medical Education of Iran, and the instructions for its use were approved in 2019 in the National Committee of Medicinal Leeches. Some activities carried out at the University of Tehran about the medicinal leeches include: organizing two International Conference and startup weekend on Medicinal Leeches, offering 15 national and international training workshops on reproduction and breeding of medicinal leeches, the first training workshop for technical officers, establishing a protected area for medicinal leeches, pursuing the establishment of a National Committee and constituted the first automated center for reproduction and breeding of medicinal leeches. Currently, leech industry is facing many issues, including the illegal import of leeches from abroad, lack of control on leech overfishing from the natural habitats, which led to the extinction of medicinal leeches, as well as the supplying the medical and health centers with infected leeches, feeding reared leeches with contaminated blood, no-insurance coverages of leech treatment, and medicinal leech farms. The above problems should be solved with special attention and advanced management.

**Keywords:** Medicinal leech, *Hirudo orientalis*, Leech therapy, Enzymes, Traditional products

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