

## Highlight the Anti-Paralytic Activity of Medicinal Plants - A Review

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### Abstract

**Background:** Paralysis is a loss of strength in and control over a muscle or group of muscles in a part of the body due to disruption of neuronal signalling in between the nervous system and muscle coordinates. The common causes of paralysis are stroke, head injury, spinal cord injury (SCI) and multiple sclerosis. The search for cure of paralysis is yet to be found. Many ethnobotanical surveys have reported the use of medicinal plants by various ethnic communities in treating and curing paralysis. Plants are obviously God gifted for the synthesis of medicinal compound and provide a great help in a new discovery in the area of chemical diversity

**Methodology:** This article was deliberate to review the effective medicinal plants on paralysis disease. In this study, the relevant articles were searched for in the databases Magiran, Iranmedex, Irandoc, PubMed, Scopus, SID, Web of Science, and Science Direct using the search engine Google Scholar etc. was successfully carried out and characterized consequently.

**Results:** The crucial review exposed the promising medicinal plants (leaves, root, flower, bark, fruits, rhizome) are effective against paralysis.

**Conclusion:** This information will serve as a ready orientation for the worldwide researchers and will be very helpful or inspiring for the medicinal chemists or associated investigators in synthesized antiparalytic drug from the plants extract for pharmacotherapeutic applications.

**Keywords:** Paralysis, Antiparalytic activity, Medicinal plants.

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### 1. Introduction

Paralysis can be accompanied by a loss of feeling (sensory loss) in the affected area if there is sensory damage as well as motor. [1]

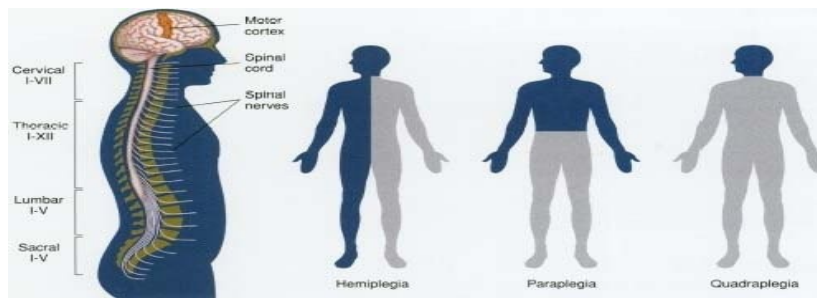


Figure 1: Types of paralysis [3]

Muscle movement is controlled by trigger signals relayed from the brain. When any part of the relay system - such as the brain, spinal cord, nerves, or junction between

the nerve and the muscle – is damaged, the signals to move do not make it through to the muscles and paralysis results.[4]

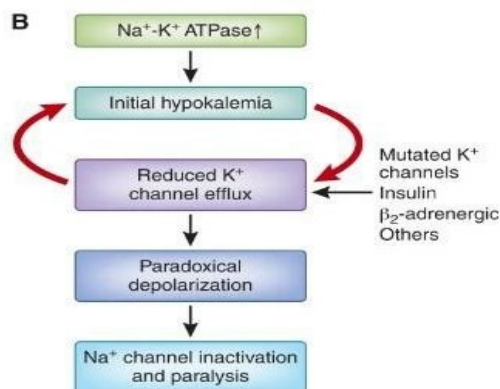


Figure 2: Mechanism of paralysis [5]

Bell’s palsy is a condition in which the muscles on one side of face become weak or paralyzed. It affects only one side of the face at a time, causing it to droop or become stiff on that side. [6] Paralysis when left untreated for a long

period of time could lead to the ‘death’ of the affected part i.e. wasting of muscle and tissue, paralysis causes problems like: Urinary incontinence, bowel incontinence and affect sexual function in both men and women. [7]

Table 1: Some reported work on Anti-Paralytic Activity

Sr. No	Title and Author	Journal and year	Work done
1.	Allah Bakhsh Gulshan, Altaf Ahmad Dasti. Indigenous uses of medicinal plants in rural areas of dera Ghazi Khan, Punjab, Pakistan	Journal of Agriculture and Biological Science. 2006.	<i>Aerva persica</i> The paste of plants is used to cure paralysis and the active constituent of <i>Aerva persica</i> such as flavonoids, saponins alkaloids.
2.	Getaneh Gebeyehu Mengesha. Ethnobotanical survey of medicinal plants used in treating human and livestock health problems in Mandura Woreda of Benishangul Gumuz, Ethiopia.	Advancement in Medicinal Plant Research 2016.	<i>Gardenia ternifolia</i> Crushed stem and bark is soaked in water and washing the legs. The active constituent of <i>Gardenia ternifolia</i> is iridoids, iridoidglucosides, triterpenoid.
3.	Debji Bhowmilk, K.P. Sampath Kumar. Traditional Indian herb Punarnava and its medicinal importance.	Journal of Pharmacognosy and Phytochemistry. 2012.	<i>Boerhavia diffusa</i> Alkaloid is present in <i>Boerhavia diffusa</i> which is used in tretment of paralysis.
4.	Narendra Singh, Mohit Bhalla. An overview on Ashwagandha: Arasayana of ayurveda. International Institute of Herbal Medicine. 2000.	International Institute of Herbal Medicine. 2000.	<i>Withania somnifera</i> The biological active chemical constituent of <i>Withania somnifera</i> . Include alkalois, steroidal lactones and saponins.The leaves are used in paralysis.
5.	Kaliyamoorthy Jayakumar. Ethno medicinal value of plants in Thanjavur District, Tamil Nadu, India.	International Letters of Natural Science. 2015.	<i>Abrus precatorius</i> The paste of seeds applied to the affected area to treat stiffness of shoulder joint and paralysis.The active constituent such as precasine and precol.
6	Padal S.B, Chandrashekhar P. Traditional use of plants by the tribal communities of salugupanchayatri of paderu Mandalam, Visakhapatanam, Dstrict, Andrapradesh, India.	International Journal of Computational Engineering Research. 2013.	<i>Acacia mangia</i> The stem are used in paralysis. Biological chemical constituent are present in alkaloids.
7	Y. Ratna Raju, P. Yugandhar. Documentation of ethanomedicinal knowlege of hilly tract area of east Godari district of Andra Pradesh, India.	International Journal of Pharmacy and Pharmaceutical Sciences. 2014.	<i>Cissus quadrangularis</i> Stem paste takes orally for 20-30days for the tratment of paralysis. Active constituent <i>Cissus quadrangularis</i> such as iridoids, flavonoids, stilbenes and triterpenes.
	Parvaiz Ahmed Lone, Ajay Kumar Bhardwaj. Traditional herbal tartment in some rural areas of bandipora district of Jammu and Kashmir, India.	Asian Journal of Pharmaceutical and Clinical Research. 2013.	<i>Actaea spicata</i> Fresh roots are crushed and tied as poultice on sprains and wounds to give immediate relief from pains. Fruits and roots after complete drying are grinded into power which is given to cattle with against paralysis.

## Plants effective in paralysis

Table 2: List of plants effective in Paralysis

S.N	Botanical name	Common name	Family	Part use	Ref
1.	<i>Aerapervsica</i>	Bui	Amaranthaceae	Whole plant	08
2.	<i>Calotro pisprocera</i>	Aak	Asclepiadaceae	Root, leaves, bark and flowers	08
3.	<i>Hyocymys niger</i>	Khoobkalan	Solanaceae	Leaves, floweringtops, seeds	08
4.	<i>Gardenia ternifolia</i>	Gambilo	Rubiaceae	Stem bark	09
5.	<i>Boerhavia diffusa</i>	Moto satado	Nyctaginaceae	Leaves, flowers, fruits	09
6.	<i>Withania somnifera</i>	Ashawagandha	Solanaceae	Leaves	10
7.	<i>Abruspreicatorius</i>	Kunnikkuru	Fabaceae	Roots, leaves, seeds	11
8.	<i>Jasminum grandiflorum</i>	Pichakam	Oleaceae	Roots, flower, whole plant	11
9.	<i>Acacia mangia</i>	Acash	Mimosaceae	Stem bark	12
10.	<i>Cissus quadrangularis</i>	Nalleru	Vitaceae	Stem	13
11.	<i>Actaeaspicata</i>	Banparthi	Ranunculaceae	Roots and fruits	14
12.	<i>Adenanthrapavonia</i>	Anegulganji	Mimosaceae	Seeds	15
13.	<i>Gendarussa vulgaris</i>	Kari lekke	Acanthaceae	Leaves	15
14.	<i>Jatropha gossypifolia</i>	Chikk Kaduharalu	Euphorbiaceae	Seeds	15
15.	<i>Allium sativum</i>	Garlic	Amaryllidaceae	Bulb	16
16.	<i>Nararelia zeyanica</i>	Vatamkolli	Ranunculaceae	Leaves	17
17.	<i>Asparagus racemosus</i>	Stabari	Liliaceae	Root juice	18
18.	<i>Cannabis sativa</i>	Bhang	Cannabinaceae	Seeds	19
19.	<i>Cassia fistula</i>	Kirala	Caeslpinaceae	Roots and leaves	20
20.	<i>Ficus racemosa</i>	Pipal	Moraceae	Leaves and bark	20
21.	<i>Entada pursaetha</i>	Pangra	Sinohimalyenesis	Seeds	21
22.	<i>Sida cordata</i>	Bhuinni	Malvaceae	Leaves	22
23.	<i>Jatropha curcas</i>	Kattamanakku	Euphorbiaceae	Leaf juice	23
24.	<i>Mentha arvensis</i>	Pudina	Lamiaceae	Seeds	24
25.	<i>Ocimum gratissimum</i>	Bon tulsi	Labiatae	Whole plant	25
26.	<i>Salvia staminea</i>	Sage	Lamiaceae	Leaves	26
27.	<i>Datura metal</i>	Datura	Solanaceae	Leaves	27
28.	<i>Meloidogyne javanica</i>	Cotton root	Heteroderidae	Root	28
29.	<i>Calotro pisprocera</i>	Ashkar	Asclepiadaceae	Leaves	29
30.	<i>Anethum graveolens</i>	Dill	Apiaceae	Seeds	30
31.	<i>Buddle jamendozensis</i>	Salvia blanca	Buddlejaceae	Leaves	31
32.	<i>Celastrus paniculatus</i>	Valuluvai	Celastraceae	Bark, leaves and seed	32
33.	<i>Moringa oleifera</i>	Drumstick	Moringaceae	Leaves, seeds	33
34.	<i>Jatropha glandulifera</i>	Bellyache bush	Euphorbiaceae	Seeds, roots	34
35.	<i>Glycyrrhiza glabra</i>	Licorise	Fabaceae	Root	35
36.	<i>Radix gentianaem acrophyllae</i>	Qinjiao	Gentianaceae	Root	36
37.	<i>Ophiorrhiz arugosa</i>	Sarhati	Rubiaceae	Leaves	37

## 2. Conclusion

The use of different plant parts for paralysis, leaves showed highest application by roots and seed, flower head and bulb showed the least application in terms of number. For instance till date there is no simple in vitro assay to test the potential applicability of any compound or drugs against any type of paralysis, since in report available so far, complicated process are followed that use rats or mouse for researchers related to paralysis.

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