

Review on Herbal Plants Showing Antidepressant Activity

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ABSTRACT

Depression is a life threatening and common mental disorder. Depressive disorder is a prevalent psychiatric disorder which affects most of the world population. Depression refers to a state of low mood, loss of interest, reduced energy and poor concentration. The reason for the disease include stimulation of MAO-A inhibition of Noradrenaline and 5HT. Depletion of neurotransmitters, dopamine and serotonin level. There are many chemical and synthetic drugs available to treat this disease cause many adverse effects and may lead to recovery in only 50% of patients. At same time medicinal plants or their extract gives extreme optimal pharmacological effect in treatment of depression. A review indicated that most herbal medicinal plants showing antidepressant activity.

I. INTRODUCTION

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feeling of guilt or low self worth, disturb sleep or appetite and poor concentration. It is characterized by deep long lasting feeling of sadness. Depression has been social problem throughout history. Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest also called major depressive disorder. Patients with major depression have symptoms that reflect changes in brain monoamine neurotransmitters specifically norepinephrine, serotonin, dopamine. WHO estimated that by the year 2020 depression will result in second greatest increase in morbidity after cardiovascular disease. This disorder not only affects the patients but also their friends and families. Social withdrawal, lack of motivation, sexual dysfunction, nightmares, depressed mood, sleep disorders, some drugs such as corticosteroids, acne treatment drugs such as isotretinoin and antiviral drugs may increase risk of depression. Women are about twice as likely as men to become depressed, tiredness, reduced appetite, weight loss, anxiety, angry outbursts, slowed thinking, feeling of hopelessness, lost someone loved person are symptoms of

depression. Clinical depression are also called major depression, persistent depressive disorder also called Dysthymia and bipolar depression also called manic depression are most common types of depression. Recently internal stressors such as variations in serum levels of cholesterol, triglycerides and coagulation factors have been reported to be involved in development of depression. There are many synthetic drugs like stimulants, serotonin inhibitors and monoamine oxidase inhibitors to treat depression. These drugs work some weeks to some months after use. But these drugs treated in only few people and recurrence risk persists. Besides that they can cause several side effects such as dry mouth, sleepiness, constipation and impotence. Currently researchers are finding out the more specific drugs with higher safety and lower cost. Researchers were attracted by the medicinal plants and their extract have long been used to treat different types of depression disorders and have no side effects. The aim of this article to review the findings of the studies on antidepressant effects showing herbal plants and their extract.

Medicinal Herbal Plants

Passiflora Foetida

Passiflora Foetida (passifloraceae) popularly known as stinking passion flower is an herbaceous climber that has been widely used in treatment of different CNS disorders. Chemical constituents in P. foetida include hydrocyanic acid, groups of flavonoids and Harman alkaloids. Some reports have pointed out Harman alkaloids as bioactive constituents of P. incarnata Linn it is species of Passiflora that have been extensively studied chemically and biologically it has better antidepressant activity.

Hypericum species

H. perforatum L and H. maculatum C widely used for treatment of mild to moderate forms of depression. Alcoholic extract of this plants have same efficiency as conventional drugs but less side effects.

Amaranthus spinosus

Amaranthus Spinosus (Amaranthaceae) also commonly known as spiny amaranth, spiny pigweed, prickly amaranth. Methanolic extract of whole plant gives significant antidepressant activity.

Lavandula officinalis

Lavandula angustifolia formerly *L. officinalis* is a flowering plant belonging to family Lamiaceae. It is commonly known as Lavender, true Lavender or English lavender. Hydroalcoholic and aqueous extract of flower gives the antidepressant activity. Daily bathing with *L. angustifolia* essential oil caused

improvement of mood and decrease in symptoms of depression.

Rhizoma Alisma orientalis

Alisma orientalis commonly known as Asian water plantain. Extract of rhizomes of *Alisma orientalis* gives effects in treating certain depression associated symptoms such as weight loss, anorexia, insomnia, chronic stress causes sleep disorders by affecting neurotransmitters such as dopamine, serotonin and norepinephrine that effects on sleep wake cycle. Rhizome extract increase in monoamine neurotransmitters in brain of elderly mice it is demonstrated in study of antidepressant activity.



1. *Passiflora Foetida* 2. *Hypericum Species* 3. *Amaranthus Spinosus* 4. *Lavandula officinalis*



5. *Rhizoma Alisma Orientalis* 6. *Ginkgo biloba* 7. *Nymphaea lotus* 8. *Glycyrrhiza Glabra*



9. *Areca Catechu* 10. *Zingiber officinalis* 11. *Glycyrrhiza Uralensis* 12. *Solanum nigrum*

Table: A brief description of herbal plants showing antidepressant activity

Plant Name	Common name	Family	Part used	Extract used
Passiflora Foetida	Stinking passion flower, Running pop	Passifloraceae	Flower	Methanol
Hypericum species	Goatweed	Hypericaceae	Aerial part	Alcohol
Amaranthus spinosus	Prickly amaranth	Amaranthaceae	Whole plant	Methanol
Lavandula officinalis	Lavender	Lamiaceae	Flower	Hydroalcoholic, aqueous
Ginkgo biloba	Ginkgo	Ginkgoaceae	Leaves	Aqueous
Solanum nigrum	Blackberry, Nightshade	Solanaceae	Leaves, fruit	Hydroethanolic

Glycyrrhiza glabra	Liquorice	Fabaceae	Whole plant	Water chloroform
Cucurbita pepo	Summer squash,pumpkin, Vegetable marrow	Cucurbitaceae	Seed	Alcohol, distilled water
Nymphaea lotus	White Egyptian lotus,tiger lotus	Nymphaeaceae	Leaf	Aqueous
Hibiscus Sabdariffa	Roselle	Malvaceae	Calcyces: Sepals & Petals	Ethanol,chloroform, Petroleum ether, distilled water
Areca catechu	Betel nut	Arecaceae	Plant palm,fruit	Dichloromethane, Ethanol
Zingiber officinalis	Ginger	Zingiberaceae	Rhizome	Hydroalcoholic
Glycyrrhiza uralensis	Sweetroot	Leguminaceae	Roots	Ethanol

II. CONCLUSION

Incidence of anxiety and depression in the community is very high and is associated with lot of morbidity. Though several marketed antidepressant drugs are available all are associated with some limitations and may cause side effects such as vomiting, blurred vision, irritation, nausea, urinary retention, etc. To overcome this, natural medicinal treatment were used for treatment of depression which will have very less to no side effects. This review has provided information on the basis of available literature and suggested that medicinal plants have potential antidepressant activity. The aim of this review to find out the herbal plants which gives activity in antidepressant.

REFERENCES

- [1]. M. Marcus, M. T. Yasamy, M. Van Ommeren, D. Chisholm, S. Saxena, WHO Dept of mental health and substance abuse **2016**, 6-8.
- [2]. L. E. Schechter, R. H. Ring, C. E. Beyer, Z. A. Hughes, X. Khawaja, J. E. Malberg, S. Rosenzweig-Lipson, NeuroRx., **2005**, 2, 590-611
- [3]. U. E. Lang, S. Borgwardt, Cell Physiol. Biochem., **2013**, 31, 761-777
- [4]. D. Antai-ontong, perspective, psychiatr. care, **2004**, 40, 29-33
- [5]. Z. J. Zhang, Life Sci., **2004**, 75, 1659-1699
- [6]. M. A. Manna, A. B. Abir, M. R. Rahman, BMC Complement Altern. Med., **2015**, 15, 1-8.
- [7]. Rang HP, Dale MM, Ritter JM **2003** Pharmacology. 5th edition Churchill Livingstone, Scotland, pp. 1-535
- [8]. Komada M, Takao K, Miyakawa T **2008** Elevated plus maze for mice J vis Exp 22:1-4
- [9]. Rajput MS, Sinha S, Mathur V, Agarwal P **2011** Herbal Antidepressant. Int J Pharma frontier Res 1(1):159-169
- [10]. Khare CP **2007** Indian medical plants and illustrated dictionary. Springer, India.
- [11]. Zargari A **1991** Medicinal plants. Tehran University publications, Tehran, p. 77-83
- [12]. Nirmala A, Saroja S, Devi GG **2011** Antidiabetic activity of Basella rubra and its relationship with the antioxidant property. British biotechnol 1 (1):1-9
- [13]. Potdar VH, Kibile SJ **2011** Evaluation of antidepressant like effects of citrus maxima leaves in animal models of depression. Iran J Basic Med Sci 14(5):478-483.
- [14]. "NIMH. Depression". nimh.nih.gov. Retrieved 15 oct **2012**.
- [15]. Ravishankar B., Chandola H.M., Personal communication and discussion, Jan 10-24 **2006**.
- [16]. Gabbard, Glen O. Treatment of psychiatric disorders 2nd 3rd edition Washington, DC: American psychiatric publishing. p. 1296.
- [17]. Dar A, Khatoon S, Antidepressant effects of ethanol extract of areca catechu in rodents. Phytother Res., 11, **1997**(b), 174-176.
- [18]. Yu ZF, Kong LD, Chen Y Antidepressant activity of aqueous extract of curcuma longa in mice, J Ethnopharmacol, 83, **2002**, 161-165.
- [19]. Yi LT, Xu Q, Li YC, Yang L, Kong LD Antidepressant like synergism of extracts from magnolia bark and ginger rhizome



- alone and in combination in mice ,prog
neuropsychopharmacol.
- [20]. Alam A,Mahmoudi M,Zolfaghari s, Allami
A, Ebrahimzadeh MA **2016**antidepressant
activity of vicia faba hills pharmacology
online 3(123):1222-126.
- [21]. Stahl SM,Halbreich U **1998**Augmentation of
antidepressants by estrogen
.psychopharmacol bull 34(3): 319-321.
- [22]. Mahmoudi M,Ebrahimzadeh MA Abdi
M,Arimi Y,Fathi H **2015** Antidepressant
activities of feijoasellowiana fruit.Eur Rev
Med Pharmacol sci 19(13):2510-2513.
- [23]. Rahman MR,Sharif M, Ali M, Rajib SS
2019Evaluation of the antidepressant like
activity of the methanolic extract of the
seeds of sesamum indicum.clinical
phytoscience5(1):2.