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Review Article……!!!

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NATURAL GIFTS FOR TREATING ANXIETY

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ABSTRACT

Anxiety is a state of psychological, physiological, and behavioral distress which interferes with normal life. Disorganised lifestyles, hectic schedules, social and occupational impairment make lives more prone to these mental problems. Among all these mental disorders anxiety disorder is the most prevalent one affecting approximately 10- 30% of the general population. When the anxiety lasts far beyond the presence of the threat, then this may impair normal functioning and become an anxiety disorder. Individuals with anxiety disorders develop cardiovascular, cerebrovascular, gastrointestinal, and respiratory disorders at a significantly higher rate than the general population. An anxiety state is associated with multiple regions of the brain and abnormal function in several neurotransmitter systems, including norepnephrine (NE), GABA, dopamine and serotonin. In the market there are so many of anti-anxiety drugs but all of them possess many side- effects. Therefore, ayurveda is the alternate for that. Ayurveda have many medicinal plants and herbs possessing anti-anxiety activity and the side-effects are nil. We can cerebrate it as blessing of nature for human kinds. Thus, in this review article we tried to summarize the plants and herbs evidencing anti-anxiety activities.

INTRODUCTION

In the era of 21st century, the cases of mental disorders such anxiety, depression, bipolar disorder, mania, schizophrenia and obsessive compulsive disorder etc have been increases day by day. Disorganised lifestyles, hectic schedules, social and occupational impairment make lives more prone to these mental problems. Among all these mental disorders anxiety disorder is the most prevalent one affecting approximately 10- 30% of the general population. Anxiety is a state of psychological, physiological, and behavioral distress which interferes with normal life. Common symptoms of anxiety include emotional and physical symptoms such as unrealistic fears, feeling tense, restlessness, trouble concentrating, irritability, irrational and excessive fear and worry, sweating, tachycardia, stomach upset shortness of breath, frequent urination or diarrhea, sleep disturbances (Insomnia), fatigue. When the anxiety lasts far beyond the presence of the threat, then this may impair normal functioning and become an anxiety disorder. Individuals with anxiety disorders develop cardiovascular, cerebrovascular, gastrointestinal, and respiratory disorders at a significantly higher rate than the general population [1].

An anxiety state is associated with multiple regions of the brain and abnormal function in several neurotransmitter systems, including norepnephrine (NE), GABA, dopamine and serotonin. In anxiety in response to threat or fearful situations, the locus ceruleus (LC) serves as an alarm center, which activating NE release and its level, therefore stimulating the sympathetic and parasympathetic nervous systems. NE in turn increases glutamate release, this produces subjective feelings of anxiety. Decreased level of GABA and serotonin (inhibitory neurotransmitter) are found to be responsible for anxiety. Abnormalities in serotonergic functioning through release and uptake at the pre-synaptic auto receptors (5-$HT_{1A/1D}$), the serotonin reuptake transporter site (SERT), or effect of 5-HT at the postsynaptic receptors (e.g., 5-HT_{1A}, 5-HT_{2A}, and 5-HT_{2C}) may play a role in anxiety disorders [2].

There are different types of anxiety: i) Generalized anxiety disorder (GAD), associated with worrying excessively about health, money, family, school or work, even though there is little or nothing to provoke it. Restlessness, muscle tension, irritability, fatigue, difficulty concentration and difficulty in sleeping are the common symptoms. ii) Phobia, characterized by an intense fear of situations, usually social or performance situations, where risk of embarrassment is present. It can disrupt normal life, interfering with school, work or social relationships. Physical symptoms of social phobia often accompany the anxious feelings and include blushing, profuse sweating, trembling, nausea, shortness of breath, racing heart and difficulty talking. Whereas some of the

more common specific phobias are centered on closed places, heights, escalators, tunnels, water, flying, dogs, and injuries involving blood. iii) Panic disorder, experiences sudden episodes of intense fear that occur without any warning or apparent reason. They can't predict when an attack will occur, and many develop intense anxiety between episodes, worrying when and where the next one will occur. Symptoms include dizziness, racing heart, perspiring, shortness of breath, tingling hands, fear of dying or "going crazy." Attacks usually last no more than about 10 minutes. iv) Post-traumatic stress disorder (PTSD), can develop following a terrifying event that a person experienced or witnessed. Whatever the source of the problem, some people with PTSD repeatedly relieve the trauma in the form of nightmares and disturbing memories during the day. Ordinary events can trigger flashbacks or intrusive images. v) Obsessive compulsive disorder (OCD) is characterized by persistent thoughts (obsessions), which are ego-dystonic and associated with seemingly purposeful behaviour (compulsions) [1], [2].

There are several anti-anxiety medicines in the market such as benzodiazepine, buspirone, beta blockers, tricyclic antidepressants and selective serotonin reuptake inhibitors etc. but the drawback of these drugs is there side effects such as ataxia, confusion, dependence, tolerance, withdrawal symptoms, weight gain, sexual dysfunction, dry mouth, and hypotension etc. If we have to use these medicines, then it is difficult to avoid these unwanted side-effects, so only the alternate we have, is ayurveda. Ayurveda have many medicinal plants and herbs possessing anti-anxiety activity and the side-effects are nil. We can cerebrate it as blessing of nature for human kinds. Thus, in this review article we tried to summarize the plants and herbs evidencing anti-anxiety activities.

PLANTS HAVING ANTI-ANXIETY ACTIVITY [1-3]

Ayurveda is the ancient system of medicines contains herbal plants; vouch for treatment of many disease or disorders. But now there are many documented evidence of many herbal plants having anti-anxiety activity. The anti-anxiety activity is due to phytoconstituents such as alkaloids (erysodine, erysothrine, gelsemine, koumine, gelsevirine, gelsenicine, magnoflorine, piplartine, sanjoinine a), glycosides (cardiospermin, hypericin, triterpenoids: galphimine A, galphimine B and α, β-amyrin), flavonoids (quercetin, kaempferol, apigenin, luteolin, chrysin, 5,7-dihydroxy-8-methoxyflavone or wogonin, bacicalin), coumarins (imperatorin and isoimperatorin, sterol- β-sitosterol), lignin (honokiol, magnolol, obovatol), fatty acids (trideca-7,9,11-trienoic acid), ginkgolic acids (6-alkylsalicylates (n-tridecyl-, n-pentadecyl-, n-heptadecyl-, n- pentadecenyl- and n-heptadecenylsalicylates), terpene (linalool, organic compounds: cinnamic acid, p-coumaric acid,

caffeic acid, ferulic acid, sinapic acids). The herbal plants are administered either in the form of extracts or as active principles (isolated or evaluated).

Table1: Plants having anti-anxiety activity [1-60]

Sr.	Plants
1.	***Abies pindrow*** **Family:** Pinaceae **Common name:** Pindrow fir
2.	***Achiellea millefolium*** **Family:** Asteraceae **Common name:** Yarrow
3.	***Aegle marmelos*** **Family:** Rutaceae **Common name:** Bael
4.	***Aethusa cynapium*** **Family:** Apiaceae **Common name:** Poison parsley
5.	***Alangium ssalvifolium*** **Family:** Alangiaceae **Common name:** Ankol
6.	***Albizia julibrissin*** **Family:** Fabaceae **Common name:** Pink silk tree
7.	***Albizzia lebbeck*** **Family:** Mimosaceae **Common name:** Lebbeck
8.	***Allium ascalonium*** **Family:** Liliaceae **Common name:** Shallot
9.	***Aloysia polystachya*** **Family:** Verbenaceae **Common name:** Burrito
10.	***Alternanthra brasiliana*** **Family:** Amaranthaceae **Common name:** Joyweed
11.	***Angelica sinensis*** **Family:** Apiaceae **Common name:** Female ginseng
12.	***Aniba riparia*** **Family:** Lauraceae **Common name:** Nees
13.	***Annona cherimola*** **Family:** Annonaceae **Common name**: Custard apple
14.	***Apocynum venetum*** **Family**: Apocynaceae **Common name:** Luobuma
15.	***Azadirachta indica*** **Family:** Meliaceae

	Common name: Neem
16.	***Bacopa Monniera*** **Family:** Scrophulariacae **Common name:** Brahmi
17.	***Bellis perennis*** **Family:** Asteraceae **Common name:** Daisy
18.	***Benincasa hispida*** **Family:** Cucurbitaceae **Common name:** Ash gourd
19.	***Boerhaavia diffusa*** **Family:** Nyctaginaceae **Common name:** Punarnava
20.	***Byrsocarpus coccineus*** **Family:** Connaraceae **Common name:** Diola, Senegal
21.	***Calotropis gigantea*** **Family:** Asclepiadaceae **Common name**: Crown flower
22.	***Camellia euphlebia*** **Family:** Euphlebiacae **Common name**: Spurge
23.	***Casimiroa edulis*** **Family:** Rutaceae **Common name:** White sapote
24.	***Cassia siamea*** **Family:** Fabaceae **Common name:** Siamese senna
25.	***Cecropia glaziouri*** **Family**: Umbelliferae **Common name:** Red cecropia
26.	***Cedrus deodara*** **Family**: Pinaceae **Common name:** Devadar
27.	***Celastrus paniculatus*** **Family:** Celastraceae **Common name:** Black oil plant
28.	***Centella asciatica*** **Family:** Umbelliferae **Common name:** Centella
29.	***Centella asiatica*** **Family:** Apiaceae **Common name:** Pennywort
30.	***Cinnamomum cassia*** **Family:** Lauraceae **Common name:** Chinese cinnamon
31.	***Citrus paradise*** **Family:** Rutaceae **Common name:** Grapefruit
32.	***Citrus sinensis***

	Family: Rutaceae **Common name:** Orange
33.	***Clinopodium mexicanum*** **Family:** Lamiaceae **Common name:** Yerba Buena
34.	***Clitoria ternatea*** **Family:** Fabaceae **Common name:** Butterfly pea
35.	***Colocasia esculenta*** **Family:** Araceae **Common name:** Taro
36.	***Coptis chinensis*** **Family:** Ranunculaceae **Common name:** Chinese goldthread
37.	***Coriandrum sativum*** **Family:** Apiaceae **Common name:** Cilantro
38.	***Crataegus oxycantha*** **Family:** Rosaceae **Common name:** Hawthron
39.	***Crinum giganteum*** **Family:** Amaryllidaceae **Common name:** Giant Himalayan lily
40.	***Cuminum cyminum*** **Family:** Apiaceae **Common name:** Cumin
41.	***Cymbopogon citratus*** **Family:** Poaceae **Common name:** Lemon grass
42.	***Davilla rugosa*** **Family:** Dilleniaceae **Common name**: Cipo´ -caboclo
43.	***Dolichandrone falcata*** **Family:** Bignoniaceae **Common name:** Hawar
44.	***Drymaria cordata*** **Family:** Caryophyllaceae **Common name:** Tropical chickweed
45.	***Echium amoenum*** **Family:** Boraginaceae **Common name:** Borage
46.	***Erythrina velutina*** **Family:** Fabaceae **Common name:** Mulungu
47.	***Erythrina mulungu*** **Family:** Fabaceae **Common name:** Mulungu
48.	***Erythrina suberosa*** **Family:** Fabaceae **Common name:** Mulungu

49.	***Eschzoltzia californica*** **Family:** Papaveraceae **Common name:** California poppy
50.	***Euphorbia hirta*** **Family:** Euphorbiaceae **Common name:** Dudhani
51.	***Euphorbia longana*** **Family:** Sapindaceae **Common name:** Longan
52.	***Euphorbia neriifolia*** **Family:** Euphorbiaceae **Common name:** Thor
53.	***Eurycoma longifolia*** **Family:** Simaroubaceae **Common name:** Tongkat ali
54.	***Foeniculum vulgare*** **Family:** Umbelliferae **Common name:** Fennel
55.	***Fumaria indica*** **Family:** Fumariaceae **Common name:** Fumitory
56.	***Galphimia glauca*** **Family:** Malpighiaceae **Common name**: Gold shower
57.	***Garcinia indica*** **Family:** Clusiaceae **Common name:** Kokam
58.	***Gastrodia elata*** **Family:** Orchidaceae **Common name:** Tian ma
59.	***Gelsemium elegans*** **Family:** Loganiaceae **Common name:** Yellow Jasmine
60.	***Ginkgo biloba*** **Family:** Ginkgoaceae **Common name:** Maidenhair tree
61.	***Glinus oppositifolius*** **Family:** Molluginaceae **Common name:** Jima
62.	***Gynostemma pentaphyllum*** **Family:** Cucurbitaceae **Common name:** Poor Man's Ginseng
63.	***Hydrocotyle umbellata*** **Family:** Araliaceae **Common name:** Dollarweed
64.	***Hypericum perforatum*** **Family:** Hypericaceae **Common name:** Saint John's wort
65.	***Ipomoea reniformis*** **Family:** Convolvulaceae

	Common name: Mushakparni
66.	***Justicia gendarussa*** **Family:** Acanthaceae **Common name:** Willow Leaved Justicia
67.	***Kielmeyera coriacea*** **Family:** Calophyllaceae **Common name:** Pau santo
68.	***Leptadenia reticulate*** **Family:** Asclepidaceae **Common name:** Jiwanti
69.	***Lonchocarpus cyanescens*** **Family:** Fabaceae **Common name:** Elo and anunu
70.	***Magnolia dealbata*** **Family:** Magnoliaceae **Common name:** Cloudforest magnolia
71.	***Magnolia officinalis*** **Family:** Magnoliaceae **Common name:** Magnolia-bark
72.	***Mangifera indica*** **Family:** Anacardiaceae **Common name:** Mango
73.	**Matricaria recutita** **Family:** Asteraceae **Common name:** Chamomile
74.	***Melanthera scandens*** **Family:** Compositae **Common name:** Sierra Leone
75.	***Melissa officinalis*** **Family:** Lamiaceae **Common name:** Lemon balm
76.	***Mercurialis annua*** **Family:** Euphorbiaceae **Common name:** Mercury
77.	***Mimosa pudica*** **Family:** Fabaceae **Common name:** Shy Plant
78.	***Morinda citrifolia*** **Family:** Rubiaceae **Common name:** Noni
79.	***Nymphaea stellata*** **Family:** Nymphaeceae **Common name:** Blue Water Lily
80.	***Ocimum sanctum*** **Family:** Lamiaceae **Common name:** Tulsi
81.	***Oxalis corniculata*** **Family:** Oxalidaceae **Common name:** Yellow Woodsorrel
82.	***Paeonia moutan***

	Family: Paeoniaceae **Common name:** Moutan or tree peony
83.	***Panax ginseng*** **Family:** Araliaceae **Common name:** Ginseng
84.	***Passiflora actinia*** **Family:** Passifloraceae **Common name:** Blue Passion Flower
85.	***Passiflora edulis*** **Family:** Passifloraceae **Common name:** Passion fruit
86.	***Passiflora incarnata linn*** **Familly:** Passifloraceae **Common name:** Passion flower
87.	***Piper methysticum*** **Family:** Piperaceae **Common name:** Kava kava
88.	***Piper tuberculatum*** **Family:** Piperaceae **Common name:** Pimenta longa
89.	***Protium heptaphyllum*** **Family:** Burseraceae **Common name:** Breu
90.	***Punica granatum*** **Family:** Puniaceae **Common name:** Pomegranate
91.	***Rhodiola rosea*** **Family:** Crassulaceae **Common name:** Golden root
92.	***Rollinia mucosa*** **Family:** Annonaceae **Common name:** Biriba
93.	***Rubia cordifolia*** **Family:** Rubiaceae **Common name:** Madder
94.	***Rubus brasiliensis*** **Family:** Roseceae **Common name:** Amorinha
95.	***Rubus fruticosus*** **Family:** Rosaceae **Common name:** Black Berry
96.	***Salvia elegans*** **Family:** Lamiaceae **Common name:** Pineapple sage
97.	***Salvia officinalis*** **Family**: Lamiaceae **Common name**: Garden sage
98.	***Salvia reuterana*** **Family:** lamiacaea **Common name:** Maryam goli esfahani

99.	***Scutellaria baicalensis*** **Family:** lamicaeae **Common name:** Baikal skullcap
100.	***Scutellaria Lateriflora*** **Family:** Lamiaceae **Common name:** Blue skullcap
101.	***Securidaca longepedunculata*** **Family:** Polygalaceae **Common name:** Violet tree
102.	***Sesamum indicum*** **Family:** Pedaliaceae **Common name:** Sesame
103.	***Sesbania grandiflora*** **Family:** Fabaceae **Common name:** Humming-bird tree
104.	***Siparuna guianensis*** **Family:** Siparunaceae **Common name:** Urcugalabili
105.	***Solanum Surattense*** **Family:** Solanaceae **Common name:** Kantakari
106.	***Sphaeranthus indicus*** **Family:** Compositae **Common name:** East indian globe thistle
107.	***Stachys lavandulifolia*** **Family:** lamiaceae **Common name:** Chaie koohi
108.	***Tagetes erecta*** **Family:** Asteraceae **Common name:** Mexican marrygold
109.	***Tamarindus indica*** **Family:** Caesalpiniaceae **Common name:** Tamarind
110.	***Terminalia chebula*** **Family:** Combretaceae **Common name:** Harra
111.	***Tilia Americana*** **Family:** Tiliaceae **Common name:** Basswood
112.	***Tilia tomentosa Moench*** **Family:** malvaceae **Common name:** Silver lime
113.	***Tragia involucrate*** **Family:** Euphorbiaceae **Common name:** Indian stinging nettle
114.	***Tribulus terrestris*** **Family:** Zygophyllaceae **Common name:** Puncturevine
115.	***Turnera aphrodisiaca*** **Family:** Turneraceae

	Common name: Damiana
116.	***Tylophora indica*** **Family:** Asclepiadaceae **Common name:** Ipecac
117.	***Uncaria rhynchophylla*** **Family:** Rubiaceae **Common name:** Cat's claw
118.	***Uraria picta*** **Family:** Fabaceae **Common name:** Dabra
119.	***Urtica Urens*** **Family:** Urticaceae **Common name:** Dwarf Nettle
120.	***Valeriana edulis*** **Family:** valerianaceae **Common name:** Mexican valerian
121.	***Valeriana jatamansi*** **Family:** Valerianaceae **Common name:** Jatamasi
122.	***Valeriana officinalis*** **Family:** Caprifoliaceae **Common name:** All-heal
123.	***Verbena officinalis*** **Family:** Verbanaceae **Common name: Verbena**
124.	***Vitex negundo*** **Family:** Verbanaceae **Common name:** Chestetree
125.	***Withania somnifera*** **Family:** Solanaceae **Common name:** Ashwagandha
126.	***Zingiber officinale*** **Family:** Zingiberaceae **Common name:** Ginger
127.	***Ziziphus zizyphus*** **Family:** Rhamnaceae **Common name:** Chinese date

CONCLUSION

In this review we tried to summarize the herbal plants evidencing anti-anxiety activity. Yet, there are many plants, which have to revel for anti-anxiety activity. And for that, it is necessary to isolate phyto-constituents anxiolytic plants with demonstrable anxiolytic effects in animal models as well in clinical studies.

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