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Review article

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A review article for herbal drugs as anxiolytic activity

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ABSTRACT

Anxiety is an emotional and physiological response to known or unknown causes that may range from a normal reaction to extreme dysfunction (indicative of an anxiety disorder), affect decision-making, adherence to treatment, and impair functioning, affect quality of life. There are number of herbs used in the anxiolytic activity i.e. *Bacopa monnieri* linn., *Casimiroa edulis*, *Citrus aurantium* Linn., *Emblica officinalis*, *Ginkgo biloba* L., *Hypericum perforatum* linn., *Magnolia officinalis*, *Piper methysticum*, *Withania sominifera* linn., *Zingiber officinale* etc. Compared to pharmaceutical drugs, herbs are safer and more digestible, effective and economical. As an effective treatment for various health conditions, herbs are great alternatives to pharmaceutical drugs. Unlike pharmaceutical drugs, herbs promote an improvement in overall health when combined with a raw-vegan diet and regular exercise. The leaves, roots, stems of different plants are sources of vitamin c, minerals, amino acid that can be helpful in case of CNS disorders. In review of study, we studied that anxiolytic activities of different extracts (ethanolic and aqueous extracts) of different plants in mice/rat, at the different doses (30, 100, 300 mg/ kg) have shown significant results as a Anxiolytic activity (neurotransmitter balance) using LDM, EPM parameters respectively.

Keywords: Anxiolytic Activity, EPM – Elevated Plus Maze, LDM – Light Dark Model, CNS – Central Nervous System. Herbal Drugs

ANXIETY

Is an emotional and physiological response to known or unknown causes that may range from a normal reaction to extreme dysfunction (indicative of an anxiety disorder), affect decision-making, adherence to treatment, and impair functioning, affect quality of life.[1] Anxiety, characterized as unstable mood, elevated attention, negative

interpretation and social phobia under the conditions of potential threatening signs.[2] Generalised anxiety disorder (GAD), Social phobia, Specific phobia, Obsessive compulsive disorder (OCD), Post traumatic stress disorder, Separation anxiety disorder are of different types of anxiety.[3]

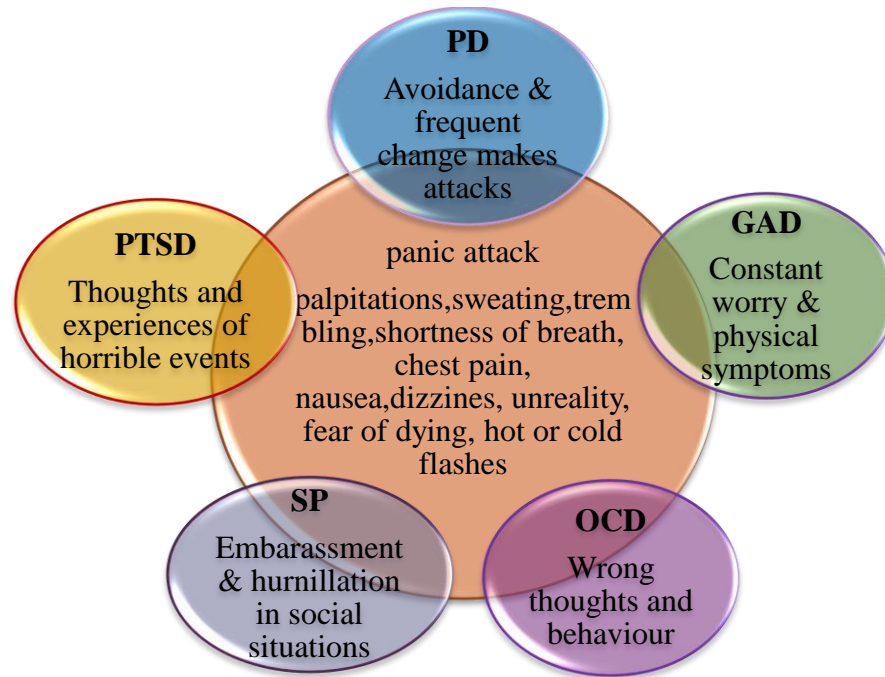


FIG: 1.1 Anxiety disorders 3

Note: PD – Panic disorder , GAD – Generalized anxiety disorder, OCD- obsessive compulsive disorder, PTSD – Post traumatic stress disorder , SP – Social phobia

CAUSES OF ANXIETY:[4]

Biological causes

Heredity, neurotransmitter imbalance, illness, medication, nutritional factors.

Psychological factors

Low self esteem, Negative emotions, Development crises, inter or intra- personal conflicts.

Social causes

Adverse life experiences, Lack of social support, work stress, lack of social skills, changing values, natural calamities.

SYMPTOMS OF ANXIETY:[5]

Emotional sensation

Headache, nausea, vomiting, sweating, trembling, stomach pain, ulcers, diarrhoea, tingling, weakness, body ache, feeling shortness of breath, hot flashes or chills increased blood pressure and heart rate, etc.

Physical sensations

Nervousness, worry, fear, irritability, insecurity, isolation from others, self-consciousness, desire to escape, feeling that one is going to die, etc

ETIOLOGY OF ANXIETY DISORDERS:[6]

Biological causes

Heredity, neurotransmitter imbalance, illness, medication, nutritional factors.

Psychological factors

Low self esteem, Negative emotions, Development crises, inter or intra- personal conflicts.

Social causes

Adverse life experiences, Lack of social support, work stress, lack of social skills, changing values, natural calamities (Table 1)

Table 1.1: Etiology of anxiety disorders

Biological causes	Psychological causes	Social causes
Heredity	Personality traits	Adverse life experiences
Neurotransmitter imbalance	Low self esteem	Lack of social support
Illness	Cognitive dissonance	Work stress
Nutritional factors	Negative emotions	Lack of social skills
medications	Inter and intra personel conflictis	Changing values
	Developmental crisis	Conflict of social norms
	Perception of situational factors	Terrorism
		Natural calamites

EPIDEMIOLOGY OF ANXIETY DISORDERS: [7-9]

- Acc. to National Co-morbidity survey replication on prevalence, severity & co-morbidity estimates of mental disorders in united states, the most recent 1 year prevalence rate for anxiety disorder (TAV was 19.1 % in persons aged 18 years and older.
- Specific phobia were most common anxiety disorder with 12 month prevalence of 9.1%
- One year prevalence of- GAD was 2.7 %, panic disorder – 2.7% and that of social anxiety disorder was -7.1%.
- About 500 million people worldwide suffer from mental and behavioural disorders.⁷
- The National Co-morbidity Study (Table 1.2) reported that one in four persons met the diagnostic criteria for at least one anxiety disorder.
- Anxiety disorders have a 12-month prevalence rate of 17.7 percent.
- Women have a lifetime prevalence of 30.5 percent versus 19.2 percent prevalence in men.

- Prevalence of anxiety disorders decreases with higher socioeconomic status. Estimated at approximately 25%* (lifetime prevalence)
 - Approximately 13.3% are Social phobias
 - Approximately 11.3% are Simple Phobias
 - Approximately 3.5% are Panic Disorder
 - Approximately 2.5% are OCD
 - Approximately 5.1% are GAD
- Mostly untreated leading to high utilization of the healthcare system [8].

HERBAL DRUGS VERSUS SYNTHETIC DRUGS: [10]

Compared to pharmaceutical drugs, herbs are safer and more digestible, effective and economical. As an effective treatment for various health conditions, herbs are great alternatives to pharmaceutical drugs. Unlike pharmaceutical drugs, herbs promote an improvement in overall health when combined with a raw-vegan diet and regular exercise. Herbal drugs showing their actions: Safety, Poison, Digestion, Effectiveness, Origins, Cost.

Table 1.2 : Worldwide prevalence of anxiety 9

Anxiety disorders	Prevalance	Comments
Panic	5 % in men 2 % in women	More prevalent in women High co-morbidity rate with major depression
Generalised	5.1 %	More frequent in females Likely to be co-morbid with other disorders
Obsessive-compulsive Disorder	2.3%	Equally common in men and women First symptoms very often observed in children
Post traumatic stress	1% in general population 30-50% in traumatized population	Womens are more likely to be afflicted Rape is most likely triggered
Social phobia	13.3 %	More common in men and women

PLANTS PROVED TO POSSES ANXIOLYTIC ACTIVITY :[11-100]

- ***Abies pindrow Royle*** (family - Pinaceae) : Ethanolic extract of leaves of “*Abies pindrow Royle*” at the dose of 50-100 mg/kg possesses significant anxiolytic activity in EPM and OFT.[11]
- ***Achillea millefolium. L.*** (family - Asteraceae): Ethanolic extract of flowers of “*Achillea millefolium. L*” at the dose of 8-12 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze).[12]
- ***Aloysia polystachya*** (family - Verbenaceae) : Hydroalcoholic extract of leaves of “*Aloysia polystachya*” at the dose of 500 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze) .[13]
- ***Albizzia lebeck. (L). Benth*** (family - Fabaceae) Butanolic extract of leaves of “*Albizzia lebeck. (L). Benth*” at the dose of 25 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze) .[14]
- ***Albizzia julibrissin Durazz*** (family - Fabaceae) : Aqueous extract of leaves of “*Albizzia julibrissin Durazz*” at the dose of 100-200 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze) and LDM (light dark model).[15]
- ***Angelica sinensis Oliv. Diels.*** (family – Apiaceae) : Essential oil of plant of “*Angelica sinensis Oliv. Diels*” at the dose of 25-50 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze) and LDM (light dark model) .[16]
- ***Aniba riparia Nees Mez.*** (family -Lauraceae) : Ethanolic extract of leaves of “*Aniba riparia Nees Mez*” at the dose of 25 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze) and HBT(Hole board test) .[17,18]
- ***Annona cherimola Mill.*** (family - Annonaceae) : Aqueous extract of leaves of “*Albizzia julibrissin Durazz*” at the dose of 100-200 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze) and LDM (light dark model) .[19]
- ***Apocynum venetum. L.*** (family - Apocynaceae) : Ethanolic extract of leaves of “*Albizzia julibrissin Durazz*” at the dose of 30 & 125 mg/kg possesses significant anxiolytic activity in EPM (elevated plus maze).[20]
- ***Azadirachta indica. A.Juss*** (family - Meliaceae): Aqueous extract of leaves of “*Azadirachta indica. A.Juss*” at the dose of 10-200 mg/kg possesses significant anxiolytic activity in EPM and OFT.[21]
- ***Bacopa monnieri L. Pennell*** (family - Meliaceae) : Aqueous extract of whole plant of “*Bacopa monnieri*” at the dose of 10-25mg/kg possesses significant anxiolytic activity in OFT.[22]
- ***Caesalpinia Bonducella (Roxb)*** (family - Fabaceae) : Etahnolic extract of seeds of “*Caesalpinia Bonducella (Roxb)*” at the dose of 10,25,50,100 mg/kg possesses significant anxiolytic activity in OFT & EPM.[23]
- ***Casimiroa edulis Llave & Lex.*** (family - Rutaceae) : Aqueous extract of leaves of “*Casimiroa edulis Llave & Lex.*” at the dose of 25 mg/kg possesses significant anxiolytic activity in EPM.[24]
- ***Cannabis sativa L.*** (family - Cannabaceae) : Ethanolic extract of seeds of “*Casimiroa edulis Llave & Lex.*” at the dose of 25 mg/kg possesses significant anxiolytic activity in EPM.[25]
- ***Cecropia glazioui. Sneth*** (family- Moraceae) : Aqueous, Butanolic extract of leaves of “*Cecropia glazioui. Sneth*” at the dose of 0.25-1 mg/kg possesses significant anxiolytic activity in EPM.[26]
- ***Centella asiatica. L*** (family- Apiaceae) : Methanolic extract of stem bark of “*Centella asiatica. L*” at the dose of 25-50 mg/kg possesses significant anxiolytic activity in EPM & OFT.[27]
- ***Citrus aurantium. Linn.*** (family - Rutaceae) : methanolic extract of leaves & fruits of “*Citrus aurantium. Linn.*” at the dose of 25-100 mg/kg possesses significant anxiolytic activity in OFT.[28]
- ***Citrus sinensis L. Osbeck*** (family- Rutaceae) : Essential oils of leaves & fruits of “*Citrus sinensis L. Osbeck*” at the dose of 25 mg/kg possesses significant anxiolytic activity in EPM.[29]
- ***Clitoria ternatea. L*** (Family- Fabaceae) : Aqueous extract of tannins & resins of “*Clitoria ternatea. L* ” at the dose of 100 mg/kg possesses significant anxiolytic activity in DLM & EPM.[30]

- ***Coriandrum sativum L*** (Family- Apiaceae) : Aqueous extract of leaves of “*Coriandrum sativum L* ” at the dose of 100 mg/kg possesses significant anxiolytic activity in EPM.[31]
- ***Coptis chinensis Franch*** (Family- Ranunculaceae) : Aqueous extract of leaves of “*Coptis chinensis Franch*” at the dose of 100 mg/kg possesses significant anxiolytic activity in EPM.[32]
- ***Crinum giganteum Andrews*** (Family- Amaryllidaceae) : Aqueous extract of leaves of “*Crinum giganteum Andrews*” at the dose of 6.5, 12.5 , 25 mg/kg possesses significant anxiolytic activity in LPM, OFT.[33]
- ***Crocus sativus L. (Saffron/kesar)*** (Family- Amaryllidaceae) : Aqueous extract of leaves of “*Crocus sativus L*” at the dose of 1-25 mg/kg possesses significant anxiolytic activity in LPM, OFT.[34]
- ***Davilla rugosa Poiret*** (Family-Dilleniaceae) : Aqueous extract of whole plant of “*Davilla rugosa Poiret* ” at the dose of 25,26 mg/kg possesses significant anxiolytic activity in EPM.[35,36]
- ***Echium amoenum*** (Family- Boraginaceae) : Aqueous extract of leaves of “*Davilla rugosa Poiret* ” at the dose of 375 mg/kg possesses significant anxiolytic activity in EPM.[37,38,39]
- ***Erythrina velutina Willd*** (Family- Fabaceae) : Aqueous, alcoholic extract of stem bark of “*Erythrina velutina Willd*” at the dose of 50-100 mg/kg possesses significant anxiolytic activity in EPM.[40,41]
- ***Erythrina variegata L*** (Family- Fabaceae) : Aqueous, alcoholic extract of leaves of “*Erythrina variegata L*” at the dose of 100-500 mg/kg possesses significant anxiolytic activity in LDM & OFT.[41]
- ***Eschscholzia californica cham*** (Family- Papaveraceae) : Aqueous, alcoholic extract of leaves of “*Eschscholzia californica cham*” at the dose of 25 mg/kg possesses significant anxiolytic activity in LDM & staircase.[42]
- ***Eschscholzia californica cham*** (Family- Papaveraceae) : Aqueous, alcoholic extract of leaves of “*Eschscholzia californica cham*” at the dose of 25 mg/kg possesses significant anxiolytic activity in LDM & staircase.[43]
- ***Euphoria longana Lamk*** (Family- Sapindaceae) : Butanol fractions, chloroform extract of leaves of “*Euphoria longana Lamk*” at the dose of 2g/kg possesses significant anxiolytic activity in Vogel type anti-conflict method.[44]
- ***Euphorbia hirta L.*** (Family- Euphorbiaceae) : Aqueous, alcoholic extract of leaves of “*Euphorbia hirta L.*” at the dose of 12.5- 25 mg/kg possesses significant anxiolytic activity in LDM & staircase.[45,46]
- ***Eurycoma longifolia*** (Family- Fabaceae) : Methanol, water, chloroform, n- butanol fractions extract of plant of “*Erythrina variegata L*” at the dose of 0.3kg/each possesses significant anxiolytic activity in EPM & OFT.[47]
- ***Euphorbia nerifolia Linn.*** (Family- Fabaceae) : Hydro-alcoholic extract of plant of “*Euphorbia nerifolia Linn.*” at the dose of 400mg/kg possesses significant anxiolytic activity in EPM .[48-49]
- ***Galphimia glauca Cav*** (Family- Malpighiaceae) : Methanolic extract of plant of “*Galphimia glauca Cav.*” at the dose of 8.3mg/g possesses significant anxiolytic activity in EPM, LDM .[50]
- ***Gastrodia elata Blume*** (Family- Malpighiaceae) : Aqueous extract of leaves of “*Gastrodia elata Blume*” at the dose of 100 mg/kg possesses significant anxiolytic activity in EPM, LDM .[51]
- ***Ginkgo biloba L.*** (Family- Ginkgoaceae) : Alcoholic, butanolic fractions extract of leaves of “*Ginkgo biloba L*” at the dose of 0.063-1 mg/kg possesses significant anxiolytic activity in EPM .[52]
- ***Hypericum perforatum L.*** (Family- Hypericaceae) : Ethanolic extract of leaves of “*Hypericum perforatum L.*” at the dose of 100-200 mg/kg possesses significant anxiolytic activity in EPM,OFT, EZM.[53]
- ***Ipomoea stans Cav*** (Family- Convolvulaceae) : Ethanolic extract of leaves of “*Ipomoea stans Cav.*”at the dose of 100-500 mg/kg possesses significant anxiolytic activity in EPM , OFT.[54]
- ***Justicia hyssopifolia linn.***(Family- Convolvulaceae) : Ethanolic extract of leaves of “*Justicia hyssopifolia linn.*” at the dose of 25-50

- mg/kg possesses significant anxiolytic activity in OFT.[55]
- ***Kielmeyera coriacea Mart. ex Saddi.*** (Family- Clusiaceae) : Hydroalcoholic extract of leaves of “*Kielmeyera coriacea Mart. ex Saddi*” at the dose of 100 mg/kg possesses significant anxiolytic activity in OFT,EPM .[56-58]
 - ***Magnolia dealbata Zucc*** (Family- Magnoliaceae) : Aqueous extract of stems of “*Magnolia dealbata Zucc*” at the dose of 30,100,300 mg/kg possesses significant anxiolytic activity in EPM ,Head dipping and exploratory rearing test.[59]
 - ***Matricaria chamomilla L.*** (Family- Asteraceae) : Hydro alcoholic extract of leaves of “*Matricaria chamomilla L.*” at the dose of 25mg/kg possesses significant anxiolytic activity in OFT.[60]
 - ***Melissa officinalis L*** (Family- Lamiaceae) : Aqueous extract of leaves of “*Melissa officinalis L.*” at the dose of 25,50,100 mg/kg possesses significant anxiolytic activity in LDM, OFT.[61]
 - ***Momordica charantia Linn.*** (Family- Cucurbitaceae) : Methanolic extract of leaves of “*Momordica charantia Linn.*” at the dose of 12.5-25mg/kg possesses significant anxiolytic activity in EPM, OFT.[62]
 - ***Morus alba L.*** (Family- Moraceae) : Aqueous extract of leaves of “*Morus alba L.*” at the dose of 10-20mg/kg possesses significant anxiolytic activity in EPM, OFT.[63-64]
 - ***Mitragyna speciosa Korth*** (Family- Rubiaceae) : N-Hexane extract of whole plant of “*Morus alba L.*” at the dose of 0.2-0.5mg/kg possesses significant anxiolytic activity in EPM.[65]
 - ***Nardostachys jatamansi DC.*** (Family- Valerianaceae) : Methanolic extract of roots and rhzome of “*Nardostachys jatamansi DC*” at the dose of 50mg/kg possesses significant anxiolytic activity in EPM.[66]
 - ***Nepeta persica Boiss*** (Family- Lamiaceae) : Aqueous extract of leaves of “*Nardostachys jatamansi DC*” at the dose of 25, 50mg/kg possesses significant anxiolytic activity in LDM, OFT.[67]
 - ***Nepeta cataria L.*** (Family- Lamiaceae) : Aqueous , alcoholic extract of leaves of “*Nepeta cataria L*” at the dose of 25,50mg/kg possesses significant anxiolytic activity in OFT.[68]
 - ***Pachyrrhizus erosus linn***(Family- fabaceae) : Ethanolic extract of seeds of “*Pachyrrhizus erosus linn*” at the dose of 150mg/kg possesses significant anxiolytic activity in EPM.[69-70]
 - ***Paeonia mountan Sims*** (Family- Paeoniaceae) : Methanolic extract of root bark of “*Paeonia mountan Sims*” at the dose of 100mg/kg possesses significant anxiolytic activity in EPM , LDM.[71-72]
 - ***Panax ginseng C. A.*** (Family- Araliaceae) : Aqueous extract of root bark of “*Panax ginseng*” at the dose of 2.5mg/kg possesses significant anxiolytic activity in OAT. [72-75]
 - ***Passiflora incarnate Linn*** (Family- Passifloraceae) : Aqueous, methanolic extract of root, stems ,whole plant of “*Passiflora incarnate Linn*” at the dose of 25-100mg/kg possesses significant anxiolytic activity in OFT , EPM.[76]
 - ***Passiflora foetida L*** (Family- Passifloraceae) : Aqueous extract of flower of “*Passiflora foetida L*” at the dose of 25mg/kg possesses significant anxiolytic activity in OFT , EPM.[77]
 - ***Passiflora edulis Sims. e*** (Family- Passifloraceae) : Methanolic extract of leaves of “*Passiflora edulis Sims. e*” at the dose of 25-100mg/kg possesses significant anxiolytic activity in OFT , EPM.[78]
 - ***Piper methysticum G. Forster.*** (Family- Piperaceae) : Aqueous extract of leaves of “*Piper methysticum G. Forster.*” at the dose of 120-200mg/kg possesses significant anxiolytic activity in ,EPM.[79]
 - ***Rauvolfia serpentina (L.) Benth. ex Kurz.*** (Family- Apocynaceae.) : Aqueous extract of roots of “*Piper methysticum G. Forster.*” at the dose of 25-100mg/kg possesses significant anxiolytic activity in ,EPM , OFT.[80]
 - ***Rhodiola rosea L.*** (Family- Apocynaceae.) : Methanolic extract of roots of “*Rhodiola rosea L.*” at the dose of 8,25,75mg/kg possesses significant anxiolytic activity in ,EPM , Conditional emotional response tests.[81]
 - ***Ruta chalepensis L.*** (Family- Rutaceae) : Ethanolic extract of leaves of “*Ruta chalepensis L.*” at the dose of 300,600,1000mg/kg possesses significant anxiolytic activity in ,EPM , OFT , Board hole test.[82]

- ***Rubus brasiliensis Martius*** (Family- Rutaceae) : Ethanolic extract of leaves of “*Rubus brasiliensis Martius* at the dose of 300,600,1000mg/kg possesses significant anxiolytic activity in EPM , OFT , Board hole test.[83]
- ***Santalum album*** (Family- Santalaceae) : n-Hexane extract of leaves of “*Santalum album*” at the dose of 300,600,1000mg/kg possesses significant anxiolytic activity in EPM , OFT , Board hole test.[84]
- ***Salvia elegans vahl*** (Family- Lamiaceae) : Hydroalcoholic extract of leaves of “*Salvia elegans vahl*” at the dose of 300 – 600 mg/kg possesses significant anxiolytic activity in EPM , OFT.[85]
- ***Salvia officinalis linn*** (Family- Lamiaceae) : Hydroalcoholic extract of leaves of “*Salvia officinalis linn*” at the dose of 300 – 600 mg/kg possesses significant anxiolytic activity in EPM.[86]
- ***Scutellaria baicalensis Georgi*** (Family- Lamiaceae) : Hydroalcoholic extract of leaves of “*Scutellaria baicalensis Georgi*” at the dose of 7.5-30mg/kg possesses significant anxiolytic activity in EPM.[87]
- ***Scutellaria lateriflora L*** (Family- Lamiaceae): Ethanolic extract of leaves of “*Scutellaria lateriflora L*” at the dose of 33-40mg/kg possesses significant anxiolytic activity in EPM.[88].
- ***Stachys lavandulifolia Vahl*** (Family- Lamiaceae) : Hydroalcoholic extract of leaves of “*Stachys lavandulifolia Vahl*” at the dose of 100mg/kg possesses significant anxiolytic activity in EPM.[89]
- ***Sesbania grandiflora (L.) Poiret*** (Family- Fabaceae) : Hydroalcoholic extract of leaves of “*Sesbania grandiflora (L.) Poiret*” at the dose of 25-50mg/kg possesses significant anxiolytic activity in EPM,OFT.[90]
- ***Sphaeranthus indicus Linn*** (Family- Fabaceae) : Hydroalcoholic extract of leaves of “*Sphaeranthus indicus Linn*” at the dose of 100,200,500 mg/kg possesses significant anxiolytic activity in EPM.[91]
- ***Tragia involucrata Linn.*** (Family- Euphorbiaceae) : Methanolic extract of roots of “*Tragia involucrata Linn.*” at the dose of 25,50 mg/kg possesses significant anxiolytic activity in Hole boarded test.[92]
- ***Turnera aphrodisiaca Ward.*** (Family- Turneraceae) : Butanolic extract of leaves of “*Turnera aphrodisiaca Ward.*” at the dose of 25 mg/kg possesses significant anxiolytic activity in EPM.[93]
- ***Tilia Americana L*** (Family- Malvaceae) : - Hexane , Ethyl acetate , Aqueous , Methanolic extract of aerial parts of “at the dose of 25 mg/kg possesses significant anxiolytic activity in EPM,OFT.[94]
- ***Uncaria rhynchophylla (Miq.) Jacks*** (Family- Rubiaceae) : - Aqueous extract of roots of “*Uncaria rhynchophylla*” at the dose of 200 mg/kg possesses significant anxiolytic activity in EPM, OFT.[95]
- ***Valeriana edulis ssp. procera Meyer*** (Family- Valerianaceae) : - Hydroalcoholic extract of roots of “*Valeriana edulis ssp. procera Meyer*” at the dose of 100,200 mg/kg possesses significant anxiolytic activity in EPM, OFT.[96]
- ***Valeriana officinalis L*** (Family- Valerianaceae) : - Ethanolic and Aqueous extract of roots of “*Valeriana officinalis L*” at the dose of 50 mg/kg possesses significant anxiolytic activity in EPM, OFT.[97-98]
- ***Vitex negundo Linn.*** (Family- Verbenaceae) : - Ethanolic extract of leaves of “*Vitex negundo Linn* ” at the dose of 10,20,25mg/kg possesses significant anxiolytic activity in EPM.[99]
- ***Withania somnifera (L.) Dunal*** (Family- Solanaceae.) : - Ethanolic extract of roots of “*Withania somnifera (L.) Dunal*” at the dose of 20-50mg/kg possesses significant anxiolytic activity in EPM , OFT.[100]

CONCLUSION

As an effective treatment for various health conditions, herbs are great alternatives to pharmaceutical drugs. Unlike pharmaceutical drugs, herbs promote an improvement in overall health when combined with a raw-vegan diet and regular exercise. The leaves, roots, stems of different plants are sources of vitamin c, minerals, amino acid that can be helpful in case of CNS disorders. In review of study, we studied that anxiolytic activities of different extracts (ethanolic and aqueous extracts) of different plants in

mice/rat, at the different doses (30, 100, 300 mg/kg) have shown significant results as a Anxiolytic activity using LDM, EPM parameters respectively.

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