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Preferring the use of medicinal plants instead of antidepressants

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Abstract

Understanding the chemical composition of some plants helps us to provide better treatments with fewer side effects. Examining the chemical structure of these plants, for example, is effective in improving the treatment of depression: *"Milkweed", "Valeriana officinalis", "Citrus aurantium", "Avena sativa", "Ocimum basilicum", "Echium", "Hypericum perforatum", "Rosa", "Crocus sativus", "Crocus sativus", "Dracocephalum", "Lavandula", "Papaver", "Matricaria chamomilla", "Rosmarinus officinalis", 'Hypericum perforatum"*. Multiple human clinical trials provide preliminary positive evidence of antidepressant efficacy (*Echium amoenum*, *Crocus sativus* and *Rhodiola rosea*) and anxiolytic activity (*Matricaria recutita, Ginkgo biloba, Passiflora incanata, E. ammonium* and *Scutellaria lateriflora*). In all these plants, flavonoids inhibit the efficacy of the plant against neurode generative diseases and depression. There are other factors as well as play a role in the efficacy. Among these factors include: *Fntylamyn* in sour orange and synephrine, alkaloids, phenols, serotonin, terpenes and monoterpenes, lignans, linalool, anthocyanins, barbiturates and benzodiazepines on a milk weed plant.

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Introduction

This section examines the chemical composition of some plants and their effectiveness in treating depression. In this study, we looked at the similarity of chemical substances in plants and the structure of chemical drugs and the superiority of using it instead of chemical drugs.

Milkweed:

Ayurveda and lifestyle medicine As a science of life and the world's oldest medical system, Ayurveda has a Comprehensive approach to health and disease that focuses on vigilant and promoting good health and barricade disease through healthy lifestyle repeat. These practices include consumption of fresh, minimally processed foods, the utilization of Rasayanas (formulas) that eradicate ageing and disease, sophisticated detoxification repeat and regular consumption of adapt genic herbs that enhance the body's capacity to maintain balance in the midst of a diversity of stressors. Studies by Rang HP *et al.* (1996) reveal commalone utilization CNS depressants are barbiturates, benzodiazepine and ethanol. Both barbiturates and benzodiazepines give their CNS efficacy by interaction with postsynaptic gamma amino butyric acid receptor (GABAA receptor). Studies Clark WG *et al.* (1989) reveal the utmost earnest drawback of barbiturates as a depressant is relevant to their narrow margin of safety, and alone 10 times of their therapeutic dose may be lethal.

Lavandula angustifilia:

Studies Akhondzadeh S *et al.* (2003) reveal *Lavandula angustifilia* of Lamiaceae family has as well as been of a great attention in traditional and herbal medicine for therapy of depression.

This plant is as well as utilization in cosmetic products for its fragrance where the flower is the main part of the plant being utilization in herbal remedies. Studies Denner SS *et al.* (2009) reveal the essence of this plant contains 13% of monoterpenes and the utmost important chemical constituents are linalyl acetate (3055%), linalool (2035%), betaocimene, cineole, camphor, sesquiterpene caryophyllene oxide, tone, resmarinic acid, coumarin, and flavonoids. Lavandula is known to be efficacy in gastric disorders, headaches, particularly in tension headache. Studies Akhondzadeh S *et al.* (2003) reveal this plant has some antispasmodic, analgesic and relaxant properties. Akhunzade (2003) compared the efficacy of Lavandula Tincture and Imipramine in the therapy of mild to moderate depression.

Studies Akhondzadeh S *et al.* (2003) reveal according to their findings, Lavandula Tincture might be of therapeutic value in therapy of mild to moderate depression. Efficacy of *Lavandula* on depression can be explained considering its multiple chemical constituents and their efficacy on diversity of neurotransmitters involved in pathophysiology of depression. Studies Kaplan HI *et al.* (2008) reveal in distinct studies, the efficacy of this plant on Gamma Amino Bootiric Acid (GABA) has been proved whom due to the role of GABA in mood disorders, therapeutic efficacy of the plant can be attributed to its efficacy on this neurotransmitter. Studies Salah SM *et al.* (2005) reveal on the other hand, it contains flavonoids whom can efficacy on benzodiazepine receptors. Presence of multiple chemical constitutes such as monoterpenes and sesquiterpene including linalool, linalyl acetate and flavonoids such as *L. uteolin* in the other species of this plant (*L. Vera*) reinforces the possibility of its efficacy on distinct parts of the central nervous system (Gabrieli C *et al.* 2003, Hajhashemi V *et al.* 2003). Studies Ruedeberg C *et al.* (2010) reveal rapid therapeutic efficacy of *Lavandula* can be attributed to the same mechanism of antidepressant efficacy of *Hypericum*.

It is believed that *Lavandula* performs its psychological efficacy by affecting on limbic system particularly amygdala and hippocampus. Studies Cavanagh HM *et al.* (2002) reveal Mechanism of action cellular level is not totally clear, but some studies have suggested that its function is similar to benzodiazepines whom cause the increment of GABA in amygdale. Linalyl acetate has a narcotic function and linalool as well as actions as a sedative.

Matricaria recutita

The utilization of chamomile as an herbal remedy dates back to ancient Greece and Rome. Chamomile (*Matricaria recutita*) has been utilization as a traditional herbal remedy for its calming efficacy. In spite of these utilization, there has been on one randomized controlled study that has explored the efficacy of chamomile on mood. Studies Amsterdam JD *et al.* (2009) reveal chamomile's mode of antidepressant act is unknown, although it may be independent of its anxiolytic activity. Studies Yi LT *et al.* (2008) reveal multiple lines of evidence suggest that one or more of chamomile's flavanoid constituents may use an antidepressant efficacy via modulation of central noradrenalin (NA), dopamine (DA), serotonin (5-HT), and γ-amino butyric acid (GABA) neurotransmission. In addition, chamomile as well as appears to modulate hypothalamic-pituitary-adrenocortical (HPA) axis activity (Yamada K *et al.* 1996, Reis LS *et al.* 2006).

Zacatechichi

Calea zacatechichi Schltdl. (Asteraceae alt. Compositae) is a Latin-American plant, as well as known as Dream plant or Bitter Grass, whom grows predominantly in south-eastern Mexico. Reported anti-inflammatory properties of *C. zacatechichi* aqueous extract. Studies Mayagoitia L *et al.* (1986) reveal furthermore, Bork KS *et al.* Large doses elicit salivation, ataxia and retching. A double-blind human study by Mayagoitia *et al.* Studies Mayagoitia L *et al.* (1986) reveal demonstrated that in healthy volunteers, low doses of *C. Zacatechichi* extracts increased reaction time and time-lapse estimation. Studies Mayagoitia L *et al.* (1986) reveal in addition, it has been shown that the efficacy of the plant upon cingulum discharge frequency were significantly distinct of other hallucinogenic drugs, such as ketamine, quipazine and phencyclidine. The analysis revealed the presence of 6 constituents, whom are quinic acid derivative, flavonol derivatives, hydroxyl derivative and germacranolides. Based on these reports we suggest that rutin occurring in the aqueous extract of *C. Zacatechichi* should not be weighed as accountable for its depressant-like efficacy in vivo. Studies Martínez-Vázquez M *et al.* (2012) revealon the other hand. Have recently demonstrated that the aqueous extract of Dracocephalum *Moldavia* L. (Lamiaceae) as well as produce a depressant-like efficacy in forced swim test in mice. The chemical analysis of that Studies Martínez-Vázquez M *et al.* (2012) reveal extract revealed the presence of acacetin and its derivatives in high concentrations, whom may be accountable for observed depressant activity.

Citrus aurantium

SA, HCI Solutions2016. Synephrine, or, more specifically, p-synephrine, is an alkaloid, occurring naturally in some herb and animals, and as well asin approved drugs products as its m-substituted analog known as neo-synephrine. P-Synephrine (or formerly Sympatol and oxedrine [BAN]) and m-synephrine are known for their longer acting adrenergic efficacy compared to norepinephrine.

This substance is present at very low concentrations in common foodstuffs such as orange juice and other orange (Citrus species) products, both of the "sweet" and "bitter" diversity. Properties in terms of molecular structure, synephrine has a phenethylamine skeleton, with a phenolic ydroxyl-group, an alcoholic ydroxyl- group, and an N-methylated amino-group. Alternatively, synephrine might be portray as a phenyl ethanolamine with an N-methyl and p-hydroxy substituent. The amino-group admit basic properties on the molecule, whereas the phenolic–OH group is weakly acidic. Compounds in the plant along with Retention index expressed. Linalool (32/41%), alpha-terpineol (16/51%), nerol (16/49%), geranyl acetate (8/31%), Myrsyn (5/32%), and Nryl acetate (5/30%). Studies Kusu F *et al.* (1996) reveal the αPinene, α Hamvlyn and βPharyngitis only the young leaves and Trpynyl acetate and Nrvlydvl only Has been observed in senescent leaves.

Avena nthramides

Studies Chu Y. (2014) reval Avenanthramides (Anthranilic acid amides) are a group of phenolic alkaloids found usually in oats (*Avena sativa*), but as well as present in white cabbage, butterflies, eggs (*Pieris brassicae* and *P. rapae*) and in fungus infected carnation (*Dianthus caryophyllus*). Studies Koening, RT *et al.* (2011) reveala number of studies demonstrate that these natural products have anti-inflammatory, antioxidant, anti-itch, anti-irritant, and antiatherogenic activities. Oat bath was a common therapy of insomnia, anxiety and skin diseases such as eczema and burns.

Rosaceae

Rosaceae families are the utmost common ornamental herbin the world that have been known as the king of flowers. Studies Zargari A. (1992) reveal *Rosa damascena* Mill L (*R. damascena*) is the well-known Rosaceae family utilization for multiple medicinal purposes especially perfuming efficacy. Studies Moeina M *et al.* (2010) reveal this plant contains multiple compounds such as terpenes, glycosides, flavonoids, anthocyanins, Carboxylic acid, myrcene, vitamin C, kaempferol, quarcetin, and Geranial. Studies Boskabady MH *et al.* (2011) reveal R. damascena in ancient medicine was utilization for strengthening the heart, Studies Loghmani-Khouzani H *et al.* (2007) reveal therapy of menstrual bleeding, digestive problems and reduction of inflammation. Studies Shafei MN *et al.* (2003) reveal itas well as heals depression, grief, nervous stress and tension. The rose inhibits the activity of the hypothalamus and pituitary systems in rat and can repress the central nervous system. Studies Kaul VK *et al.* (2000) reveal Rose oil of plant in high doses can lead to stress tuning and the increased ability of the brain to compensate by going to steady state. Recent studies have shown that *R. damascene* has anti-HIV, antioxidant, antitussive, relaxant and antispasmodic efficacy (Velioglu Y, Mazza G .1991). In addition, it has been reported that *R. damascena* possesses sedative and hypnotic efficacy. Moallem SA *et al.* (2007) reveal Flavonoids and kaempefrol compounds have antidepressant properties and herb such as Crocus natives, *Ginkgo biloba* and *Echium vulgar* containing these compounds show antidepressant efficacy. Studies Loghmani-Khouzani H *et al.* (2007) reveal *R. damascena* is contain of flavonoids and kaempefrol. Studies Loghmani-Khouzani H *et al.* (2007) reveal In addition, it is reported that drop of rose has antidepressant efficacy in rat.

Rosmarinus officinalis

Rosmarinus officinal is (Labiatae, rosemary), mostly naturalized of cultivation, but locally native in Greece, is a common culinary plant cultivated in many parts of the world. Experiments in mice use Ache inhibitors, such as physostigmine, demonstrated an increase in anxiety- and depression-like behaviors thatwere reversed use muscarinic and nicotinic antagonists. multiple Ache inhibitors, such as donepezil, rivastigmine, Galant amine and memantine have been approved by EMA for the therapy of dementia and Alzheimer's disease (AD), diseases associated to the degeneration of the cholinergic system (Recanatini M *et al.* 2004 , Robinson DM *et al.* 2006).

Ocimum basilicum

Studies Bora KS *et al.* (2011) reveal *Ocimum basilicum* is one popular edible plant whom has as well asa wide range of utilization in traditional medicine as a therapy for anxiety, diabetes, cardiovascular disease and headache. The main components of essential oil of this herbare geranial, neural, caryophyllene oxide and methyl chavicol (Sajjadi SE. 2006). Diazepam decreased spontaneous locomotors activity to a greater extent than plant's extract or essential oil and that difference show that diazepam is more sedative than hydro alcoholic extract and essential oil of *O. basilicum*. Further studies are needed to determine the exact mechanism for the sedative act of this plant. Studies Satou T *et al.* (2014) reveal based on previous studies, some of the plant's EO components have anxiolytic and sedative efficacy such as;1,8-cineole, linalool, α-pinene, ß-caryophyllene, humulene, citral, myrcene, limonene

and methyl chavicol, as well assome of the plant's hydroalcoholic components such as malic acid, caffeic acid, kaempferol and Oleanolic acid (Fajemiroye JO *et al.* 2014).

Crocus sativus

Crocus sativus L. (Iridaceae), generally known as saffron, is a perennial stem less plant that is widely cultivated in Iran and other countries such as India and Greece. The value of saffron (stigmas of *C. sativus* L.) is determined by the existence of three main secondary metabolites: croc in, picrocrocin, and safranal (Abe K *et al.* 2000, Abdullaev FI. 2002). Studies Noorbala AA *et al.* (2005) reveal Saffron is utilization for depression in Persian traditional medicine. Pistils of saffron are generally utilization in traditional Indian medicine as analgesics and cardio-protective agents, as well as in the the rapyo fvarious kinds of mental illnesses. A raw extract of pistils of saffron improves recovery in ischemia/reperfusion injury and learning and memory in rats. Studies Madan CL *et al.* (1996) reveal intraditional medicines, saffron is recommended as an aphrodisiac agent.

Chemical constituents of saffron

Studies Liakopulou-Kyriakides M *et al.* (2002) reveal it as well as has many non-volatile active components, many of whom are carotenoids including zeaxanthin, lycopene, and various α- and β carotenes. An antioxidant 3,8-dihydroxy-1-methylanthroquinone-2 carboxylic, claimed to be superior to vitamin E in its inhibition of oxidation of linoleic acid, has been isolated of callus stem tissue of saffron (Evans WC. 1996).Dry saffron is highly sensitive to fluctuating pH levels and rapidly breaks down chemically in the presence of light and oxidizing agent. It must, therefore, be stored in air-tight containers in order to minimize contact with atmospheric oxygen. Studies Bittar M *et al.* (2000) reveal *C. sativus* has been shown to have anti-depressant efficacy, two active ingredients are crocin and safranal. As preliminary phytochemical results indicated, it could be suggested that the ant nociceptive and anti-inflammatory efficacy of the petal extracts may be due to their content of flavonoids, tannins, and anthocyanins. Studies Fatehi M *et al.* (2003) reveal other studies have demonstrated that various flavonoids such as rutin, quercetin, luteolin, hesperidin, and bioflavonoids are present.

Carum copticum

Carum copticum (Family: Apiaceae) is a grassy, annual plant with small and aromatic seeds that grows in Iran, India, and Egypt.

In Iran, there are folkloric utilization and social beliefs regarding the central depressant, sedative, and antiepileptic efficacy of Carom capsicum seeds (CCS). In addition, sedative and anxiolytic efficacy of the plant seeds were evaluated. Studies Uma Pradeep K *et al.* (1993) reveal Carum seeds have multiple constituents including steroptin, thymine, cumin, amino acids like lysine and threonine, tannins, and dietary fibers.

Valeria

Valerian is a hardy herbaceous perennial plant with a potent odor that is a member of the Valeriana cease family. It is native to Europe and parts of Asia. Constituents of valerian, typically identified use diversity of analytical methods such as high performance liquid chromatography, gas chromatography/mass spectrometry, and absorption spectrometry, include monoterpenes, sesquiterpenes, alkaloids, caffeic acid derivatives, valepotriates, flavinoids, lignans, and amino acids. Valerian has been utilization to treat a diversity of ailments including insomnia, mood disorders, anxiety, menstrual cramps, and psychological stress conditions (Chemical Information Review Document for Valerian. 2009).

Neurological Effects

Overall, in vivo studies represent that valerian and its constituents produced sedative, anxiolytic, and antidepressant efficacy. In vitro studies suggest that the efficacy of valerian and its components may occur through modulation of a diversity of neurotransmitter

systems including γ-aminobutyric acid, adenosine, and serotonin systems. Valerian components and extracts may specifically bind to receptors and modulate neurotransmission.

Papaver rhoeas L

Studies Mirzaei P *et al. (*2013) reveal in previous studies conducted by the same research group, *Papaver rhoeas* L. hydroalcoholic extract was shown to reduce the metabolic efficacy of stress in mice. Previous studies as well as examined the efficacy of the extract of this plant on withdrawal syndrome (Pourmotabbed A *et al.* 2004), Studies Sahraei *H et al.* (2006) reveal conditioned place preference, and behavioral sensitization in mice. Papaver rheas (PR) is a 25–90 cm tall herbaceous plant with red flowers that grows in various parts of the country. Studies Schaffer S *et al.* (2005) reveal this plant contains various alkaloids, such as rhoeadine, rhoeadic acid, papaveric acid, mechoic acid, mucilage, and sugar. Historically, this plant was brewed and utilization to relieve insomnia and reduce inflammation (Zargari A. 1994).

It as well as has sedative and mucus relief efficacy, and is referred to as "harmless opium" due to small amount of morphine in its extract (Zargari A. 1994). All these studies indicate the beneficial efficacy of the PR extract. The efficacy compounds in *Papaver rheas* L. hydroalcoholic extract to reduce depression have not identified yet. Studies Sahraei H *et al.* (2007) reveal however, previous researchers have shown that the extract contain anthocyanin, whom might reduce depression through interactions with dopamine receptors and their subsequent inhibition. It should be noted that presynaptic dopamine D receptors are positioned on dopamine terminals, and their inhibition increases the release of dopamine, whom is an efficacy neurotransmitter in reducing depression (MacDonald T. M. 1997). To better understand the efficacy of this extract, the interaction between the extract and dopamine system is suggested to be examined. Studies Saeed-Abadi S *et al.* (2012) reveal the majority of studies conducted on *Papaver rhoeas* indicate the presence of papaveric acid, papaverine, andmuconic acid in its extract, whom are among the utmost efficacy compounds on brain neurotransmitters. Previous studies have as well as shown the anti-glutamate efficacy of the PR extract.

Hypericum

In pastures, St John's worth actions as both a toxic and invasive weed. It replaces native plant communities and forage vegetation to the extent of making productive land nonviable (Archived from the original on 31 March. 2016, Retrieved. 2015) or becoming an invasive species in natural habitats and ecosystems.

St. John's worth is a wrapped mixture of chemicals including tannins, flavonoids, xanthones, and phloroglucinol derivatives (Enzymes. 2014). Since health efficacy occur at the molecular level, it is important to identify the accountable molecules, the active ingredients. The utmost generally cited active ingredients in St. John's worth are hypericin and hyperforin, two chemicals with very distinct structures. Utmost commercial samples in the United States contain 300 mg of herbal extract per dose and are advertised as being standardized to contain at least 0.3% hypericin. The chemistry of hypericin is surprisingly wrapped and quite fascinating: it is a large aromatic molecule in the shape of a propeller; ten tautomeric isomers are in equilibrium; it has a hydrogen deficiency index of 23; it is a potent photosensitize; and it is very acidic. Recent evidence indicates that another ingredient, hyperforin, might be accountable for the antidepressant activity of St. John's worth. This molecule is totally distinct: it consists of a bridged eight-carbon ring with four large substituents; it has tautomeric structures; and it is very active in biological systems. In modern times, St. John's worth has been collected, dried, ground, and extracted. The powdered extract residue is then filled into capsules or pressed into tablets and sold. St. Studies Zobayed SM *et al.* (2006) reveal John's worth is recommended primarily for the therapy of mild depression, but has been utilization as an anti-inflammatory agent.

Borage

Herb that grow usually in mild and tropical regions. This family is divided into 200 genus and 2000 species (Zargari A. 1375). These herb possess medicinal properties and utmost of them are mucilaginous and contain potassium nitrate. Flowers, stems, roots and leaves of these herb are utilization for medicinal purposes (Ghahreman *A. Systematic* Botany. Tehran: Academic Publishing Center. 1373). *E. vulgare* and *E. amoenum* are both utilization under the name of "Gav Zaban" in Iranian traditional medicine.

They are utilized as exhilarant, mood stimulant, diuretic and to fight common cold (Zargari A. 1375). Some nitrate and mucilage are found in leaves and aerial parts of *E. vulgare*. Other compounds are Allantoin, Phenyl propanoids such as Cinnamic acid and Rosmarinic acid, 4 carbon acids such as Citric, Fumaric, Malic and Succinic acids, Flavonoids and Flavonols, carbohydrates, lignans, lipids, steroids and Quinoids (Napralert. Echium, 3 parts, via email. University of Chicago, Illinois. 2000).

Pharmacological studies have revealed hypotensive and anti-tumor efficacy of *E. vulgare* aerial parts, leaves and stems (Napralert. Echium, 3 parts, via email. University of Chicago, Illinois. 2000). study on Ginkgo biloba, it was shown that the flavonoids-containing leaves extract inhibits mono-amino oxidase enzyme (MAO)(White HL *et al.* 1996).In addition, flavonoid compounds of this plant have similar chemical structures to known MAO inhibitors. Studies Butterweck V *et al.* (2002) reveal indeed, the flavonoids quercetin, luteolin and kaempefrol of *H. perforatum* show significant in vitro MAO inhibitory efficacy. Interestingly, quercetin and kaempefrol are present in E. vulgar extracts (Napralert. Echium, 3 parts, via email. University of Chicago, Illinois. 2000).

Discussion

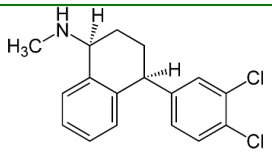
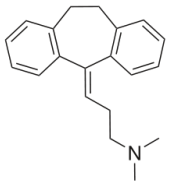
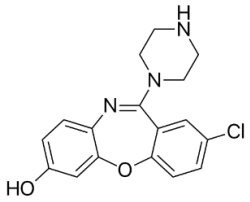
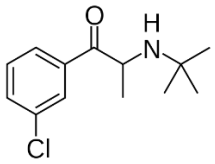
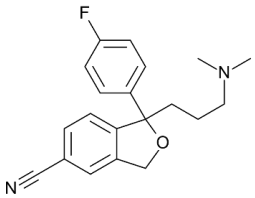
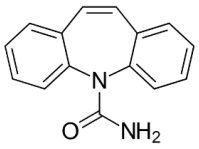
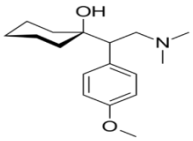
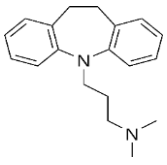
After a while of taking antidepressants died, the body naturally increases the production of neurotransmitters and no longer need to take these drugs.

According to a study in the December 6 issue of the Journal of the annual Chaprsydh in internal medicine, 27 million people in 2005 Dryaftkrdh and antidepressants. Studies Tesla R *et al.* (1987).

Utmost of these antidepressants, second-generation drugs such as optional serotonin reuptake inhibitors (SSRIs), norepinephrine reuptake inhibitors (SNRIs) and relevant drugs. In the case of drugs, optional serotonin reuptake inhibitor fluoxetine and sertraline can be pointed to two best-selling drug. Norepinephrine reuptake inhibitor good example, is venlafaxine. Studies Munafò MR *et al.* (2005) reveal the results of multiple pharmacological and genetic studies on optional serotonin reuptake inhibitors show that polymorphisms of serotonin Zhntranspvrtr, human societies with many common diseases such as cardiovascular, pulmonary, gastrointestinal system, nerves and mental, has a close relationship. In all these plants, flavonoids inhibit the efficacy of the plant against neurodegenerative diseases and depression. The phytochemical screening test represent that flavonoids are the major components in CCS. There are other factors as well as play a role in the efficacy. Among these factors include: Fntylamyn in sour orange and synephrine, alkaloids, phenols (valerian, oats), serotonin (borage, chamomile), terpenes and monoterpenes (roses, lavender, and valerian), lignans (valerian, borage), linalool (basil, lavender), anthocyanins (rose, saffron), barbiturates and benzodiazepines on a milkweed plant. And other factors fully stated in the introduction.

In the Table 1 Structure of some listed and Table 2 is the Structure of some constituent elements of antidepressant medicinal. Comparing Tables 1 and 2 we find that the chemical structure of compounds herbal and chemical drugs, there are aromatic rings, nitrogen and oxygen, the ingredients are all combined.

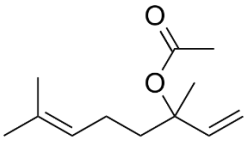
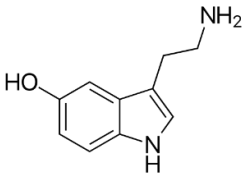
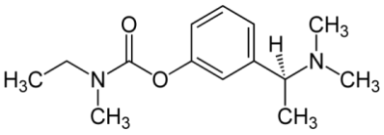
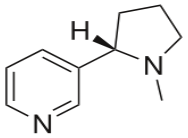
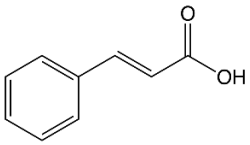
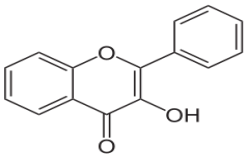
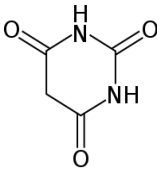
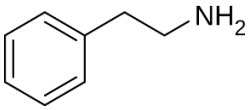
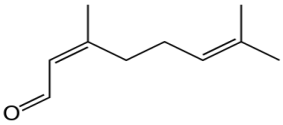
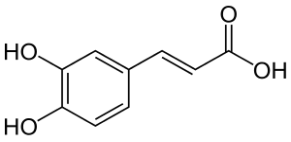
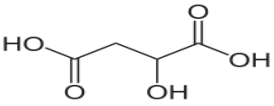
Table 1. Structure of some antidepressants.

Name	Molecular formula	Molecular structure
Asentra	C17H17Cl2N1	
Tryptomer, Elavil	C20H23N	
7-Hydroxyamoxapine	C17H16ClN3O2	
Wellbutrin, Zyban	C13H18ClNO	
Citalopram	C20H21FN2O	
Carbamazepine	C15H12N2O	
Venlafaxine	C17H27NO2	
Tofranil	C19H24N2	

Electronegative oxygen can be very strong Electron acceptor.

After the fluorine and oxygen, nitrogen is one of the electronegative elements. Interfere in many compounds, most of which are organic compounds. Ultimately, the goal is for all antidepressants production of serotonin in the brain that plays a role in maintaining mental balance.

Table 2. Structure of some constituent elements of antidepressant medicinal plants.

Name	Molecular formula	molecular structure
Linalyl acetate	C12H20O2	
Serotonin	C10H12N2O	
galantamine	C14H22N2O2	
Nicorette, Nicotrol	C10H14N2	
Cinnamic acid	C9H8O2	
3-Hydroxyflavone	C15H10O3	
Barbiturates	C4H4N2O3	
Phenethylamine	C8H11N	
Citral	C10H16O	
Caffeic acid	C9H8O4	
Malic acid	C4H6O5	

Conclusion

Despite intensive efforts to develop novel psychiatric drugs for anxiety and depression disturbance over the past two decades, all drugs have so far failed to minimize side efficacy. In this respect, herbal medicines could be an attractive candidate as the therapeutic strategies for these conditions. A major role for plant-derived compounds based on the reported immunomodulatory efficacy has emerged in recent times and has led to the rigorous scientific examination to determine efficacy and safety. The anxiolytic activity of plant extracts was evaluated using the EPM test.

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