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Review Article

Anxiety Explored: Understanding Classification, Effective Treatments, and the Healing Essence of Aromatherapy

Soni RK[1], Chauhan B[2]

[1,2]*Faculty of Pharmacy, The Maharaja University, Baroda, Vadodara*

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ABSTRACT

This thorough literature review explores the complex field of anxiety, with particular attention to how it is classified, what kinds of treatments are available, and how aromatherapy and essential oils are becoming more and more important in managing anxiety. Anxiety disorders, which include everything from panic disorder and phobias to generalised anxiety disorder, constitute a substantial worldwide health burden. Complementary therapies are being investigated because traditional treatment options, which include psychotherapy, medicine, and lifestyle modifications, still have limits. Aromatherapy has gained attention for its potential to alleviate symptoms of anxiety. It is based on the therapeutic application of aromatic plant extracts. The classification of anxiety, traditional therapies, and the mechanisms underpinning aromatherapeutic interventions are all summarised in this review of recent studies. In order to give readers a thorough grasp of anxiety disorders, this review integrates psychology, pharmacology, and alternative medicine to examine the use of essential oils in anxiety management.

Keywords: Anxiety, Treatments, Aromatherapy, Essential oils.

INTRODUCTION

Anxiety is a complex and common mental health disorder that has become more prominent in today's times. Anxiety can severely impair a person's performance in daily functions across various spheres of activity and well-being. It is defined by excessive fear, apprehension, and increased physiological reactivity. The first feature focuses on the diverse types and the multiple sets of reasons fear can develop from. The second feature analyses the relations between anxiety and the person's self, society, and surroundings. The third feature pays attention to the consequences of multiple cases of anxiety and illness.

The Latin word "anxietas" (to choke, throttle, trouble, and upset) is the source of the English word "anxiety," which refers to a range of behavioural, affective, and cognitive reactions to perceived danger. It's normal for humans to feel anxious. When anxiety is controlled, it can help people respond predictably and adaptively to difficult or stressful situations.

When anxiety levels are too high, people become unstable and enter a dysfunctional state. When anxiety develops in the absence of a challenge or stress, when it lasts longer or is more severe than the challenge or stress, when it causes a great deal of distress, and when it impairs psychological, social, occupational, biological, or other aspects of one's life, it is deemed excessive or pathological.[1]

Because poor mental health has major social and economic ramifications, there has been a recent emphasis on the need to promote wellbeing and positive mental health in order to prevent the development of mental disorders.[2-4] Additionally, research indicates that, both at the societal and individual levels, mental health promotion and preventative interventions are cost-effective in preventing or lowering morbidity associated with mental illness.[5-6]

Fact and Statistics

The National Mental Health Survey (NHMS)

The 2015-16 National Mental Health Survey in India revealed that 15% of the population requires proactive assistance for stress or anxiety-related disorders, affecting over 40 million people, a significant number.

A 2017 Lancet study revealed 197 million mental health disorders in India, with depression being the most prevalent, affecting 45.9 million people. Anxiety, affecting 44.9 million, affected 3.3% of the population. Kerala had the highest prevalence of anxiety.

The COVID-19 pandemic significantly impacted global mental health, with a 25% increase in anxiety and depression prevalence, and a 35% rise in anxiety disorders in India, particularly affecting women and younger people.[7]

**Author for Correspondence: soniradhika1099@gmail.com*

The inability to control worry and excessive anxiety and concern for at least six months are diagnostic criteria.

Three or more of the following symptoms have been present for at least six months in conjunction with the anxiety: restlessness, feeling tense or agitated, being easily tired, having trouble focusing or having a blank mind, irritability, muscle tension, disturbed sleep, and irritability.[8-9]

Clinical Manifestations

Anxiety disorders often involve personal unease, focus issues, sleep problems, and social or professional functioning issues. These disorders differ in presentation, progression, and management.

Physical health complaints can distract from underlying anxiety symptoms, particularly in panic disorder, which involves extreme fear, impending doom, and physical symptoms like breathlessness, dizziness, and chest pain.[10]

The physical effects of anxiety on your body may manifest as:

- A sensation of churning in your stomach
- Light-headedness or dizziness
- Tingling sensations like pins and needles
- Restlessness or an inability to remain seated
- Headaches, backaches, or various other aches and pains
- Increased breathing rate
- Rapid, irregular, or pounding heartbeat
- Sweating or experiencing hot flushes
- Difficulty sleeping
- Grinding of teeth, particularly during nighttime
- Nausea or feelings of sickness
- Altered frequency of urination or bowel movements
- Changes in libido
- Occurrence of panic attacks.

The psychological effects of anxiety on your mind may encompass:

- Feelings of tension, nervousness, or an inability to relax
- A pervasive sense of dread or anticipating the worst outcomes
- Perceiving the world as either accelerating or decelerating
- Sensation of being scrutinized by others due to anxiety
- Inability to cease worrying or fearing negative consequences if worry ceases
- Concerns about experiencing anxiety-related symptoms, such as panic attacks
- Seeking excessive reassurance from others or fearing their displeasure
- Fearing detachment from reality
- Experiencing a dip in mood leading to depression
- Rumination, where one dwells extensively on negative experiences or situations
- Depersonalization, a form of dissociation where one feels disconnected from their mind or body, akin to observing oneself in a movie
- Derealization, another form of dissociation characterized by feeling disconnected from the surrounding world or questioning its reality
- Preoccupation with potential future events, commonly known as anticipatory anxiety.[11]

Table 1: The categorization of neurotic and anxiety disorders as outlined in the American Psychiatric Association's Diagnostic and Statistical Manuals of Mental Disorders [12]

DSM-I Psychoneurotic Disorders (1952)	DSM-II Neuroses (1968)	DSM-III Anxiety Disorders (1980)	DSM-III-R Anxiety Disorders (1987)	DSM-IV Anxiety Disorders (1994)
Phobic reaction	Phobic Neurosis	Agoraphobia with Panic Attacks Agoraphobia without Panic Attacks Social Phobia Simple Phobia	Agoraphobia without history of Panic Attacks Social Phobia Simple Phobia	Agoraphobia without history of Panic Attacks Social Phobia Simple Phobia
Anxiety reaction	Anxiety Neurosis	Panic Disorder Generalized Anxiety Disorder	Panic Disorder with Agoraphobia Panic Disorder without Agoraphobia Generalized Anxiety Disorder	Panic Disorder with Agoraphobia Panic Disorder without Agoraphobia Generalized Anxiety Disorder
Obsessive Compulsive Reaction	Obsessive Compulsive Neurosis	Obsessive-Compulsive	Obsessive-Compulsive Disorder	Obsessive-Compulsive

		Disorder Posttraumatic Stress Disorder	Posttraumatic Stress Disorder	Disorder Posttraumatic Stress Disorder Acute stress disorder
Depressive Reaction	Depressive Neurosis			
Conversion Reaction	Hysterical Neurosis			
Dissociative reaction	Neurasthenic Neurosis Hypochondriacal Neurosis, Depersonalization Neurosis			

Anxiety can manifest in various ways. If your symptoms align with specific criteria, your doctor may diagnose you with a particular anxiety disorder. Here are some frequently diagnosed anxiety disorders:

- Generalized Anxiety Disorder (GAD) entails experiencing frequent or uncontrollable concerns about various aspects of your daily life. Due to the multitude of potential anxiety symptoms, this diagnosis can be broad, leading to individual experiences of GAD varying significantly from person to person.
- Social Anxiety Disorder, or social phobia, is characterized by experiencing intense fear or anxiety specifically in social situations, such as parties, workplaces, or ordinary interactions where communication with others is necessary. Refer to our section on types of phobia for further details.
- Panic Disorder refers to experiencing regular or frequent panic attacks without a discernible cause or trigger. Living with panic disorder can entail a constant fear of experiencing another panic attack, to the extent that this fear itself can precipitate panic attacks. For additional information, please see our section on panic attacks.
- Phobias having panic attacks on a regular or frequent basis without any obvious trigger or cause is known as panic disorder. A persistent fear of having another panic attack can be a defining feature of living with panic disorder, to the point where the fear can trigger panic attacks. Please refer to our section on panic attacks for more details.
- Post-Traumatic Stress Disorder (PTSD) is a diagnosis typically given to individuals who develop anxiety-related issues following a traumatic experience. PTSD may entail experiencing flashbacks or nightmares that make you feel as though you are reliving the fear and anxiety you felt during the traumatic events. For further information, please refer to our resource on PTSD and complex PTSD.
- Obsessive-Compulsive Disorder (OCD) is a diagnosis you might receive if your anxiety issues involve repetitive thoughts, behaviours, or urges. For additional information, please consult our resource on OCD.[11]
- Agoraphobia is a persistent fear of challenging or embarrassing situations, often causing functional impairment. It typically lasts for six months or more and can occur in public transportation, open spaces, crowds, or alone. Individuals with agoraphobia often avoid these situations, seek support, or endure intense fear. If left untreated, it can escalate to house boundness. Agoraphobia is diagnosed when the fear causes significant distress or interferes with daily activities.
- Selective mutism is a condition where children do not speak in social situations they are expected to, such as school, despite speaking in other situations. This lack of speech can interfere with social communication and can lead to academic problems and social isolation. Children with selective mutism may also experience excessive shyness, fear of social embarrassment, and high social anxiety. Typically beginning before age 5, selective mutism may not be formally identified until school. Some children may outgrow selective mutism, while symptoms of social anxiety disorder may remain.[13]

Treatment Options Available

1. Cognitive–Behavioural Therapy and Medications
2. Exposure therapy
3. Acceptance and commitment therapy (ACT): This type of therapy uses strategies of living in the moment and refraining from judgment, along with behaviour change, to cope with anxiety.
4. Dialectical behavioural therapy (DBT): DBT combines CBT techniques with meditation concepts.

5. Interpersonal therapy: This is short-term supportive talk therapy that focuses on resolving interpersonal (or relational) problems.[14]
6. Pharmacological Therapy/ Medication:
- Selective Serotonin Reuptake Inhibitor/ Antidepressants
- Serotonin–Norepinephrine Reuptake Inhibitors
- Benzodiazepines/ Anti-anxiety medications
- Antiseizure Medications
- Tricyclic Antidepressants
- Beta blockers
- Additional Medications
7. Experimental and Off-Label Nonpharmacological Treatments:
- Electroconvulsive Therapy
- Vagal Nerve Stimulation
- Surgery
- Deep-Brain Stimulation
8. Complementary and Alternative Medicine / Traditional therapy:
- yoga
- meditation
- aromatherapy
- massage
- herbal treatments
- Bach flower remedies
- Exercise
- Relaxation techniques
- Biofeedback
- Hypnosis [15-16]

Exploring the Preference for Alternative Therapies in Managing Anxiety: A Question of Medication Choice:

There are several reasons why some people may choose complementary therapies over conventional medication for treating anxiety or depression-like symptoms:

1. Preference for natural approaches: Some individuals prefer natural or holistic treatments over conventional medication due to concerns about potential side effects or the use of synthetic compounds.
2. Desire for a holistic approach: Complementary therapies often focus on treating the whole person, addressing mental, emotional, and physical aspects of health, which can be appealing to those seeking a more comprehensive approach to wellness.
3. Belief in the efficacy of complementary therapies: Many people believe in the effectiveness of complementary therapies based on personal experiences, anecdotal evidence, or cultural beliefs.
4. Perception of fewer side effects: Complementary therapies are often perceived as having fewer side effects compared to conventional medications, leading some individuals to prefer them as a safer alternative.
5. Preference for self-management: Some individuals prefer therapies that empower them to take an active role in their own healing process, such as meditation, yoga, or acupuncture, rather than relying solely on medication prescribed by a healthcare professional.
6. Cultural or religious beliefs: Certain cultural or religious beliefs may influence individuals to choose complementary therapies that align with their cultural or spiritual practices.
7. Accessibility and affordability: In some cases, complementary therapies may be more accessible or affordable than conventional medication, particularly for individuals without health insurance or limited financial resources.

It's essential to note that while complementary therapies may offer benefits for some individuals, they may not be suitable or effective for everyone, and they should not be used as a substitute for evidence-based medical treatments. It's important for individuals to consult with a healthcare professional to discuss their treatment options and develop a personalized plan that addresses their specific needs and preferences.

Aromatherapy

Aromatherapy is a complementary therapy that uses essential oils extracted from plants to promote mental, emotional, and spiritual well-being. These highly concentrated oils are used topically, diluted into a low concentration solid oil, for contact therapy and respiratory and papillary therapy. However, they may cause skin sensitization, contact dermatitis, and phototoxicity, so dilution is necessary. Essential oils are extracted from the entire plant, including bark, roots, flowers, leaves, seeds, and resins.

Aromatherapy is a one-on-one consultation between a therapist and patient, where the patient's medical and lifestyle history is discussed. A customised plant blend is prepared, focusing on safety, dosage, cultural customs, and therapeutic qualities.

The therapy can be administered through massage or inhaled blends. Aromatherapy is crucial for its therapeutic benefits and has been shown to provide "immeasurable comfort" to dialysis patients. [17,18]

Clinical studies explore the function of the smell reaction after inhaling essential oils. Volatile molecules trigger an olfactory pathway nerve impulse, which is processed by the amygdala and hippocampal regions. Odor-induced memories and

positive associations have been linked to improved mood, health, and wellbeing. Aromatherapy may also interact with the autonomic nervous system to promote calmness and lower stress levels.[19-23]

Over the past 30 years, aromatherapy has grown as a clinical practice that uses massage and inhalation to provide complementary therapy in clinical settings.

A growing number of clinical studies have examined aromatherapy's potential as a non-pharmacological intervention.[24-27] While treating patients' illnesses is the primary focus of healthcare professionals, they are also recognising more and more that supporting patients' psychological wellbeing requires a patient-centered approach[28-29]. An essential oil's aromatic compounds may have sedative and anxiolytic properties, according to mounting research [30]. Certain essential oils have been found in studies to help lower anxiety and provide easy-to-use, low-risk, affordable treatments that enhance patient outcomes overall.[31-33]

Since ancient times, essential oils (EOs) have been utilised as medicinal agents because of their pharmacological and psychological properties. These volatile odour compounds have been used for a variety of purposes in ancient Egypt, India, Persia, Mesopotamia, and China. They are composed of benzenoids, phenylpropanoids, monoterpenoids, and sesquiterpenoids. The biological effects of EOs, such as their antimicrobial, antifungal, antiviral, anti-inflammatory, antioxidant, anticancer, and antinociceptive qualities, have been researched. Research has demonstrated that EOs elicit a variety of pharmacological reactions in the nervous system, which may help treat mental health conditions like dementia, anxiety, and depression. EOs are used in aromatherapy, a well-liked complementary therapy, to treat anxiety, depression, insomnia, and cognitive disorders.[34] Summary of preclinical and clinical investigations examining the impact of essential oils (EOs) on the nervous system and their potential as antidepressants and anxiolytics.

Table 2:

Botanical name of plant source/EO name. Major and active compounds of Eos	**Animal model/test subjects**	**Route of administration**	**Effect**	**References**
Boswelliasp (frankincense) α-Pinene, limonene, α-thujene, myrcene, sabinene, Para-cymene	Sleep-deprived adult male Sprague–Dawley rats	Topical administration	Antidepressant/anxiolytic	[35]
Canangaodorata (Ylang-ylang) Benzyl benzoate, linalool and benzyl alcohol	Healthy volunteers or Mice	Olfactory Or Transdermal application	Antidepressant/anxiolytic	[36-42]
Cinnamomumverum (cinnamon) TCA	Male albino mice	i.p injection	Antidepressant/anxiolytic	[43]
Citrus aurantium (Neroli) Limonene, β-myrcene, and β-pinene	Gerbins or healthy postmenopausal women or woman in labor	Olfactory	Anxiolytic/Antidepressant	[44-46]
Citrus bergamia (bergamot) Limonene, linalyl acetate and linalool	Male Wistar rats or healthy women or volunteers	i.p injection or Olfactory	Antidepressant/anxiolytic	[47-51]
Citrus sinensis (sweet orange) d-limonene, β-myrcene, α-pinene, sabinene, linalool, geranial, and neral	Patients/ men healthy volunteers/ Male Wintar rats	Olfactory	Antidepressant/anxiolytic	[52-54]

Cymbopogoncitratus (lemongrass) Neral, geranial and β-myrcene	Male Swiss mice/ Forty men	Olfactory	Antidepressant/anxiolytic	[55-57]
Lavandulaangustifolia (lavender) Linalyl acetate, linalool, lavandulyl acetate, myrcene, terpinen-4-ol, −terpineol, cis-linalool oxide, trans-linalool oxide and ocimene	Healthy volunteer or Mongolian gerbil or patients	Oral or Olfactory or	Antidepressant/anxiolytic	[58-60]
Citrus paradisi (grapefruit) Limonene, R-terpinene, R-pinene	Patients undergoing colonoscopy	Olfactory	Antidepressant/anxiolytic	[61]
Pelargonium graveolens (geranium) b-citronellol, citronellylformate, geraniol, 10-epi-g-eudesmol, geranylformate and (l)-linalool	Patients with acute myocardial infarction/ nulliparous women	Olfactory	Antidepressant/anxiolytic	[62-63]
Rosa damascena (rose) 2-phenethyl alcohol, citronellol, geraniol, methyl eugenol and eugenol	Healthy volunteer/ Male Wistar rats/ Gerbils	Olfactory/ Transdermal application	Antidepressant/anxiolytic	[64-67]
Rosmarinusofficinalis (rosemary) Cineole, camphor, α-pinene, camphene and α-terpineol	Mice	Olfactory	Antidepressant/anxiolytic	[68]
Salvia sclarea (Clary sage) Linalool, α-terpineol, geraniol, acetate derivative of geraniol, and myrcene	Mice/ Sprague–Dawley rats/	i.p injection/ Olfactory	Antidepressant/anxiolytic	[69-70]

The anti-CI (cognitive impairment) effects and mechanisms of essential oils extracted from natural plants. [71]

Table 3:

Source plant	**Active ingredients**	**Effects and mechanisms**
Ligusticumchuanxiong hort	Senkyunolide A; Ligustilide	Significantly reducing the levels of MAO and AchE in the brain of VCI mice; inhibiting the proliferation of BV-2 cells and reducing the increase of inflammatory factors TNF-α, NO levels.
Coriandrumsativum var.	Linalool (69.358%); γ-terpinene (7.729%); α-pinene (6.509%)	Decreasing SOD and LDH specific activities, increasing GPX specific activity and attenuating the increased MDA level, Provides neuroprotection by alleviating oxidative stress induced by Aβ1-42 injection; reducing amyloid deposits in the hippocampus.
Angelica sinensis (Olive.) Diels		Promoting the expression of neuron-protective Bcl-2 protein, reducing the

		expression of apoptotic Bax protein in brain tissue, thereby inhibiting neuronal apoptosis and accelerating the recovery of neurological function.
Cinnamomum cassia Presl	phenylallyl compounds	Inhibiting the increase of COX activity and increasing the release of prostaglandin E2, thus improving the memory function of APP transgenic AD mice.
Thymus vulgaris L.	Thymol (42.10%); cymene (19.20%); β-caryophyllene (6.40%); Carvacrol (2.70%); α-Pinene (1.52%)	Anti-oxidative stress and inhibition of AChE activity.
Chimonanthusnitens Oliv. leaves		Increasing SOD activity and decreasing MDA content, thereby reducing the damage to the organism from oxidative stress, as well as the extent of neuronal cell damage in the CA1 region of the hippocampus.
Magnolia denudate Desr.		Improving the learning memory behavior and increasing the expression of 5-HT and DA proteins in ASD model rats, the mechanism may be related to the excitability of olfactory transmission pathways and functional brain regions such as hippocampus, amygdala and hypothalamus, as well as the plasticity of neural circuitry.
Citrus × limon (Linnaeus) Osbeck		decreasing neuronal loss, improving learning and memory ability in APP/PS1 mice after neurodegeneration, suppressing accumulation of amyloid protein, downregulatingAChE activity in the hippocampus and Enhancing synaptic plasticity by increasing BDNF, PSD95 and synaptophysin to improve memory levels.
Schisandrachinensis Baill.	β-Terpinene (19.50%); 1R-α-pinene (3.60%); Benzene,1-methyl-2-(1-methylethyl) (4.63%); Terpinen-4-ol (4.92%); Benzene,2-methoxy-4-methyl-1-(1-methylethyl) (4.57%); Nerolidol (6.71%); (−)-g-Cadinene (4.32%)	Improving the activities of SOD, MDA, GSH-Px.
Schisandrachinensis (Turcz.) Baill.		Inhibiting the activation of NF-κB/MAPK pathway activation, reducing the phosphorylation of p-38 and attenuating the release of pro-inflammatory cytokines IL-1β, 1 l-6, and TNF-α, as well as improving microglia activation.
Tetraclinisarticulata	camphor (14.52%); α-pinene (22.68%); L-bornyl acetate (16.87%); borneol (5.2%);	Increasing the activity levels of SOD, CAT and GPX in hippocampal tissue, significantly ameliorating the Aβ1-42-

	limonene (7.34%)	induced decrease in GSH levels and increasing and MDA, thereby reducing oxidative stress in the rat hippocampus to ameliorate the memory deficit induced by Aβ1-42 treatment.
Pinushalepensis	beta-caryophyllene (29.45); pinene (11.14%); myrcene (7.85%); terpinolene (3.90%); 2-phenylethylisovalerate (10.38%); alpha-humulene (6.49%)	Inhibiting of AChE activity and reducing oxidative damage in rat hippocampus.
Chamaecyparisobtusa Sieb. &Zucc.	α-terpinyl acetate (16.82%); β-phellandrene (13.11%); β-myrcene(5.68%); limonene (6.49%); bornyl acetate (7.48%); γ-terpinene (4.28%); α-terpineol (4.33%); elemol (6.22%); thujopsene (4.50%); β-eudesmol (4.13%); beyerene (3.35%)	Inhibiting neuronal apoptosis and AChE activity.
Rosa rugosa Thunb.	6-Octen-1-ol,3,7-dimethyl-,(R)-(+)-Citronellol (54.02%); 2,6-Octadien-1-ol,3,7-dimethyl-,(E)-trans-Geraniol (15.01%)	Suppressing Aβ deposits and reducing the Aβ oligomers to alleviate the toxicity induced by Aβ overexpression, activating the expression of GST-4 gene, which may act through SKN-1 signaling pathway.
Zatariamultiflora Boiss.		Antioxidant, anti-inflammatory and anticholinesterase activity.
Lavandulaangustifolia Mill.	Linalool (33.1%); linalyl acetate (10.4%); 1,8-cineole (8.0%); borneol (4.5%)	Protecting cells free from Aβ1-42 oligomer-induced molecular damage, inhibiting activation of the pro-apoptotic enzyme caspase-3 and the increase of intracellular ROS; inhibiting the AChE activity; exerting anti-oxidative stress effects.
Rosmarinusofficinalis	α-pinene (11.1%); camphene (4.8%); β-pinene (6.4%); 1,8-cineole (46.0%); camphor (10.8%); borneol (2.8%); (E)-caryophyllene (3.0%)	Producing a significant improvement in the rate of spontaneous alternation behavior, activating of CNS to improve cognitive function.
Thymus vulgaris L.	Thymol (42.10%); p-cymene (19.20%); β-caryophyllene (6.40%); Carvacrol (2.7%).	Ameliorating Sco-induced increasing of AChE activity, amnesia, anxiety, and reducing the brain antioxidant capacity.
Menthapiperita Linn.	Menthol (45.56%); menthone (20.9%); menthol acetate (6.64%); 1,8-cineole (4.77%); new menthol (3.27%); iso-menthone (3.08%); menthofuran (2.05%); β-caryophyllene (1.79%); limonene (1.48%); pulegone (1.31%); germacrene D (1.17%)	Reducing Aβ deposits in the brain, protecting neuronal cells and restoring them to their normal state, and reducing peroxidative damage to brain tissue, it may improve cognitive function in AD by regulating arginine and prolinemetabolism, inositol phosphate metabolism, and cysteine and methionine metabolism.
AlpiniaOxyphylla Miq.	1,2,4,5-tetramethylbenzene (42.96%); myrtenal (4.66%); linalool (4.34%); (−)-4-	Regulating the activity of ACh synthase and catabolic enzymes, improving the antioxidant capacity of the body, up-

	terpineol (2.96%); g-terpinene (2.21%); (+)-nootkatone (1.48%); β-pinene (1.32%); (+)-(4R)-limonene (1.25%); (1S)-(+)-3-carene (1.02%)	regulating the expression of BDNF, ERK, CREB, Bcl-2 and other genes and proteins p-ERK1/2 and p-AKT473, and down-regulating the expression of Bax and caspase-3 proteins, the mechanism of which may be related to the regulation of hippocampal neuronal apoptosis.
Punicagranatum L.		Reducing accumulation of Aβ and p25, a calpain product, and increasing expression of COX IV-1, a key mitochondrial enzyme.
Acorustatarinowii Schott	β-asarone (54.62%); α-asarone (32.34%)	Inhibiting the conversion of Aβ25-35 from α-helix to β-fold and affecting its secondary structure, thus preventing Aβ aggregation and fibril formation; increasing ChAT levels, decreasing GFAP expression and protecting neurons in hippocampal tissue; reducing the deposition of misfolded Aβ and polyQ proteins and improving serotonin sensitivity and olfactory learning skill in worms, its maintenance of protein homeostasis depends on an autophagic pathway regulated in part by the hsf-1 and sir-2.1 genes.
SuHeXiang Wan Essential Oil	Benzyl Benzoate (29.87%); isobutyl cinnamate (3.05%); 17-oxygen lupinine (2.80%); Benzylcinnamic acid (2.53%); caryophyllene (2.42%); acetophenonepropyl ester (1.83%); Benzyl acetate (1.71%)	Inhibiting Aβ-induced apoptosis and ROS production by upregulating HO-1 and Nrf2 expression; inhibiting Aβ-induced Tau phosphorylation by inhibiting JNK and p38 activation in the brain; promoting Bcl-2 expression and inhibiting Bax expression thereby inhibiting apoptosis.
Listeacubeba (Lour.) Persoon	d-limonene (14.15%); β-myrcene (3.04%); methylhepteneone (2.15%); geranial (31.74%); neral (30.94%)	Inhibiting levels of oxidative stress (including MDA and phosphorylated tau protein) in the brain and preventing brain atrophy.
Essential Oil Mix	Limonene (91.11%); γ-terpinene (2.02%); β-myrcene (1.92%); β-pinene (1.76%); α-pinene (1.01%); sabinene (0.67%); linalool (0.55%); cymene (0.53%); valencene (0.43%)	Restoring the activity of the cholinergic system and the antioxidant status of the brain.

CONCLUSION

In conclusion, anxiety is a complex and prevalent mental health condition that can significantly impact individuals' well-being. Understanding its various classifications and treatment options is crucial for effectively managing symptoms and improving quality of life. Conventional treatments such as medication and therapy offer evidence-based approaches that have proven effective for many individuals. Additionally, complementary therapies like aromatherapy with essential oils have gained attention for their potential benefits in reducing anxiety symptoms.

Aromatherapy with essential oils presents a promising adjunctive therapy for anxiety management, with research suggesting potential therapeutic effects on mood and stress levels. However, further studies are needed to better understand the mechanisms of action and efficacy of aromatherapy in treating anxiety disorders.

Overall, a holistic approach that integrates conventional treatments with complementary therapies like aromatherapy may offer individuals a comprehensive and personalized strategy for managing anxiety. It is essential for individuals to work closely with healthcare professionals to explore treatment options and develop a tailored plan that meets their unique needs and preferences. Through ongoing research and collaboration between healthcare providers and individuals experiencing anxiety, we can continue to advance our understanding and improve outcomes in anxiety treatment.

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