

Herbal Approaches to Managing Anxiety and Depression: A Critical Review of Evidence

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Abstract

Anxiety and depression rank among the most prevalent mental health disorders. The global population is afflicted by this severe health issue. Approximately 280 million individuals have been documented as having depressive illnesses, as per one estimation. Depression and anxiety not only impact an individual's mental well-being but also give rise to a range of other significant health complications. Despair is a significant concern for all of humanity, prompting researchers to create a range of medications to address anxiety and despair. Nevertheless, these allopathic medications also entail significant adverse reactions. In order to tackle this issue, scientists are also creating herbal remedies by harnessing the antidepressant properties of many medicinal plants. This mini-review provides a comprehensive analysis of the epidemiology, pathophysiology, and symptomatology of anxiety and depression. The review encompasses an examination of herbal plants, specifically focusing on their potential as antidepressants and the processes via which they exert their effects. In order to carry out this brief analysis, existing literature was examined and herbal plants having antidepressant characteristics were examined and discussed.

Keywords: traditional medicines; anxiety; depression; alternative treatment

Introduction

Anxiety and sadness are the predominant mental disorders among many mental maladies. Anxiety disorders are linked to physiological, psychological, and sociological factors [1]. These illnesses are also associated with other mental problems and might manifest in early childhood. Anxiety is becoming more widespread worldwide on a daily basis. The rising incidence of anxiety and depression poses a significant risk to the overall quality of life and welfare of the global population [2]. Anxiety disorders encompass a range of clinical presentations, which can be occasionally provoked by environmental stimuli leading to the development of different phobias [3]. Panic attacks can occur when the amygdala and prefrontal cortex detect potential dangers. When a fight or flight response is activated, it can lead to several psychophysiological reactions, including an elevated heart rate, dizziness, and sweating [4]. Early intervention is crucial in addressing anxiety and depression due to the potential development of various severe health issues, including dementia, cardiovascular illnesses, and hypertension [5].

Various therapeutic modalities, including psychotherapy, medicine, and other pharmacological approaches, are available for managing anxiety and depression. Multiple researches have substantiated those psychotherapies are the most effective approaches for treating anxiety and depression. Researchers must possess knowledge of the epidemiological and demographic aspects in order to identify preventive and management measures [6]. Anxiety and depression can be effectively managed using a range of conventional pharmaceuticals; however, these medications may produce adverse effects. In order to address this issue, scientists are currently directing their attention towards harnessing the potential of herbal remedies for the management of anxiety and depression. These medications have proven to be efficacious, with minimal or negligible adverse effects [7]. This review focuses on examining the role of different herbal plants in the management of anxiety and depression. In order to achieve this objective, a thorough examination of previously published material was conducted, focusing on the evaluation of several medicinal plants commonly mentioned in the literature for their effectiveness in treating anxiety and depression.

Epidemiology of Anxiety and Depression

According to the World Health Organization's 2021 report, anxiety and depression affect 3.8% of the global population. Among them, 5.0% of adults and 5.7% of persons aged 60 and above are affected. Based on the data, there are 280 million individuals currently afflicted by depression, with women being more prone to experiencing anxiety and depression compared to males [8, 9]. An investigation was carried out in 27 European nations from 2013 to 2015 to assess the occurrence of depression. Based on the findings of the survey, it can be concluded that a total of 6.38% of the European population is now experiencing depression. According to the World Health Organization (WHO), the prevalence of depression in Europe is 7.74% among women and 4.89% among men, excluding Croatia and Finland [10].

Anxiety and depression are prevalent among the Asian population, with research indicating that the prevalence of major depression in the Asia-Pacific area ranges from 1.7% to 6.7%. Ogbo et al. did a study that revealed a depression rate of 3.9% in South Asia. The study also calculated the occurrence of depression in South Asian nations, including Pakistan (3.0%), Bangladesh (4.4%), India (3.9%), Nepal (4.0%), and Bhutan (3.7%) [10]. In 2019, the Center for Disease Control and Prevention (CDC) reported that 8.1% of persons aged 18 years or older in the United States exhibited symptoms of anxiety [11]. A separate study indicated that the prevalence of depression among people in the Caribbean and Latin America is 5%. Nevertheless, 60% of patients are left untreated. Similar to other regions globally, individuals in Africa and Australia are also experiencing the detrimental effects of anxiety and depression. Based on a study, 9.8% of the population in South Africa is impacted by depression [12]. A further study carried out in Australia found that 12.8% of females and 9.4% of males between the ages of 16 and 85 are experiencing depression [13]. Therefore, it can be inferred that anxiety and depression are not limited to any particular region; they are significant issues that affect the entire human civilization. Hence, it is imperative to promptly address this issue.

Pathophysiology

Depression can arise from a combination of psychological, social, and biological reasons. The biological reasons encompass disruptions in the

microbiome, malfunction of the hypothalamus pituitary adrenal (HPA) axis and stress response, genetic abnormalities, and inflammatory factors. Depressive illnesses are not attributable to a single component, as multiple factors contribute to the development of depression. Depression can be attributed to a deficiency of monoamines. Monoamines, including dopamine, noradrenaline, and serotonin, play a role in controlling essential functions of life. An imbalance of monoamines can disrupt essential systems that regulate life, including as memory, appetite, learning, sleep, temperature control, and social behavior. This imbalance can result in anxiety and sadness [14].

Hypothalamic Pituitary Adrenal (HPA) Axis:

Research has demonstrated that excessive functioning of the HPA axis can result in the development of depression. Empirical research has also demonstrated a substantial correlation between cortisol levels and depressive behavior [15]. Preserving the functioning of the HPA axis can also serve as a therapeutic approach for treating depression [16].

Gut microbiota and Inflammatory Alterations:

There is a notable correlation between gut microbiota and inflammatory changes. The brain and gut microbiome are interconnected at multiple levels [17]. Research has indicated that individuals with depressive disorders exhibit more pronounced changes in their gut flora compared to individuals who are in good health. These alterations have the potential to cause malfunction in the hypothalamic-pituitary-adrenal (HPA) axis and amplify stress inside the brain [18].

Immune System Disturbances: Research has substantiated that individual with disruptions in their immune system are at a higher risk of experiencing depressive disorders. The pathophysiology of depression can be attributed to alterations in the levels of several cytokines that play a role in regulating the immune system. The cytokines mentioned are C-reactive protein (CRP), interleukins (IL), namely IL-1, IL-2, IL-4, IL-6, IL-8, IL-10, and interferon [19,20].

Physical Factors and Genetics: Depression arises from a multitude of sources and is not solely confined to genetic factors. Research has substantiated that 50% of instances of depression are associated with either physical or psychological problems, while the remaining 50% are attributed to genetic factors. Although there is no singular gene that can be attributed to the development of depression, certain variations in the neurotransmission of dopamine,

serotonin, and norepinephrine, known as polymorphisms, may be implicated as potential causes of depression. When the reuptake of serotonin is inhibited, it results in a shortage of monoamines in the brain, which leads to depression. Genetic involvement is justified by the presence of polymorphisms in genes responsible for regulating the nervous system. Such polymorphisms can result in a shortage of neurons in the brain, potentially leading to depressive disorders [21].

Psychological and Social Problems: Various social and psychological issues might also give rise to depression. Human beings require social interaction to maintain a state of happiness and stability, and individuals need to establish meaningful connections with others. Attachment theory is a theoretical framework that emphasizes the need to establish strong interpersonal connections for an individual's psychological well-being. Additional psychological concerns, such as a sense of insignificance, isolation, lack of achievement, vulnerability, and desertion, can also contribute to the development of anxiety and depression. Research has also examined the influence

of circadian rhythms on the development of anxiety and depression [22].

Hormonal changes: The impact of reproductive hormones on mood swings has been extensively investigated by researchers because of their significant role in the development of depression. Recent research has established that women going through the menopausal transition are more prone to experiencing fluctuations in mood and despair. These studies also verified that the occurrence rate varies between male and female patients. The decline in estrogen and androgen levels after menopause is associated with a range of depressive symptoms, including decreased libido, weariness, and exhaustion [23].

Epigenetics: Various researches are currently investigating the role of epigenetics in the pathophysiology of depression. Epigenetics is the scientific investigation of modifications in gene expression that occur without any modifications to the DNA sequence. To summarize, the development of anxiety and depression is influenced by various circumstances, and effectively treating this mental illness poses a significant difficulty [24].

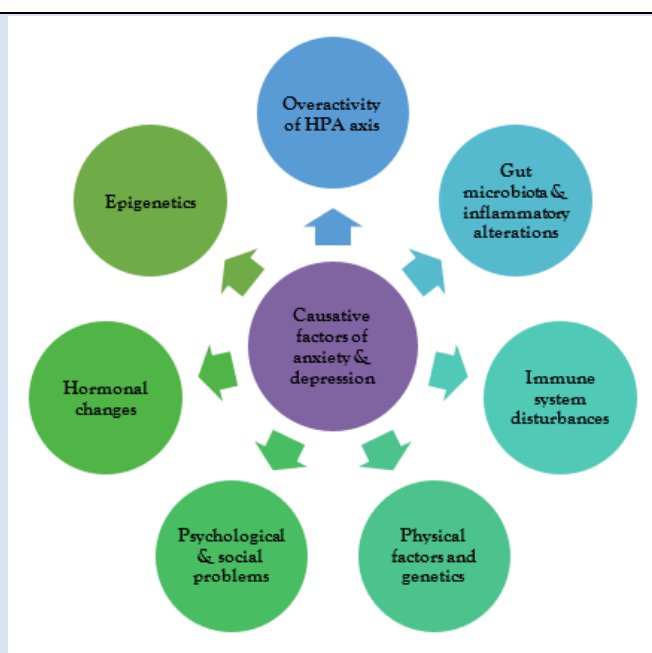


Figure 1: Various interrelated and causative factors involved in the onset of depression are shown in the figure.

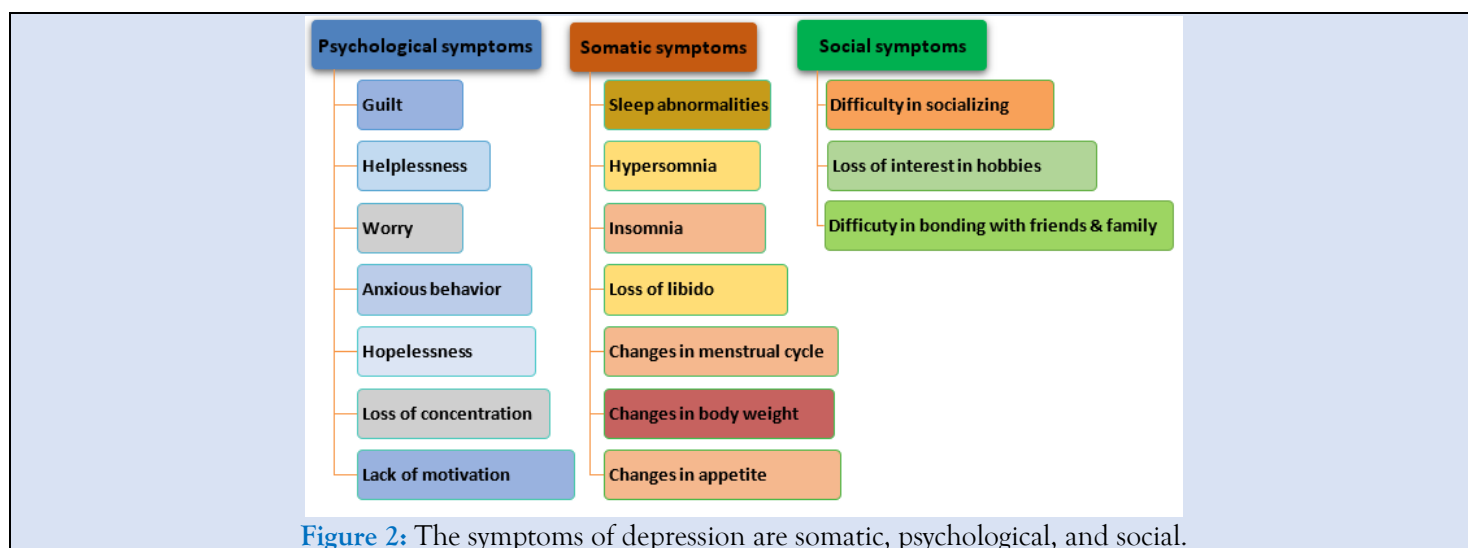
Symptoms of Anxiety and Depression

Depression is a prevalent global mental health issue. Individuals suffering from anxiety and depression exhibit a range of symptoms. Depression has the potential to impact both the emotional and professional aspects of individuals' lives. Depression manifests through physiological, psychological, and

social symptoms. Psychological symptoms encompass feelings of guilt, helplessness, concern, anxious behavior, hopelessness, impaired focus, and reduced motivation. In addition, the patient experiences anger, restlessness, overwhelm, and a lack of confidence. Nevertheless, the primary bodily manifestations of depression predominantly include

disturbances in sleep patterns. An individual experiencing depression may exhibit symptoms of either hypersomnia or insomnia. Under such circumstances, the patient experiences excessive daytime sleepiness or early morning awakenings. Furthermore, additional indications encompass diminished sexual desire, decreased vitality, alterations in body mass and hunger, bowel irregularity, and fluctuations in the menstrual cycle [25]. In addition, individuals with depression

encounter challenges in their daily routines, familial relationships, and professional endeavors. These difficulties manifest as a reluctance to engage in social interactions with loved ones and friends, a waning enthusiasm for hobbies, and a decrease in social engagements. Consequently, these circumstances contribute to the development of persistent emotional disorders. Depression can be classified as mild, moderate, or severe, based on the quantity of symptoms [26].



The efficacy of herbal remedies for anxiety and depression

Depression is a significant mental health issue, and scientists have created numerous allopathic treatments to treat it. However, these medications have notable adverse effects. Researchers are currently prioritizing the development of herbal therapeutics through the utilization of traditional herbal plants. The disadvantages of conventional allopathic medications encompass significant adverse reactions, limited alleviation of clinical conditions, and high costs. Scientists are currently working on the development of herbal remedies for anxiety and depression that are more affordable and readily available, while also having fewer or no adverse effects [27].

Commonly Used Medicinal Plants and Their Mechanisms of Action

Herbal medications have been utilized to treat a range of illnesses due to their effectiveness, safety, and few adverse effects. More recently, they have also been explored as potential antidepressants. Depression is a significant psychiatric disorder, and there are several conventional medications accessible for its therapy.

However, due to the adverse effects associated with these treatments, individuals are now opting for herbal remedies [28,29]. Below are several widely recognized herbal antidepressants, along with their mechanisms of action and antidepressant properties.

Allium Cepa: *Allium cepa*, often known as onion, is a perennial herb belonging to the Liliaceae or Alliaceae family. Various research has suggested that this herb possesses antidepressant qualities. Samad et al. have shown that several research have demonstrated the influence of *Allium cepa* powder in enhancing behavioral and biochemical responses. Research has also verified that *Allium cepa* possesses an antidepressant property and can be utilized for the management of anxiety and depression [30].

Areca Catechu: *Areca catechu*, a plant endemic to Southeast Asia, belongs to the family Arecaceae. *Areca catechu* exhibits notable medicinal and psychoactive properties. *Areca catechu* seeds and fruits contain a variety of compounds, including alkaloids, vitamins, lipids, and polyphenols. Various behavioral and biochemical investigations have been carried out to assess the antidepressant properties of *Areca catechu*. Rats were used in experiments to examine the action of the ethanolic extract of *Areca catechu* nut

(ACEE) and determine its potential as an antidepressant. The trials have conclusively verified that ACEE possesses the capacity to induce antidepressant effects [31].

Bacopa Monniera: *Bacopa monniera*, commonly referred to as Brahmi, is a naturally occurring herb. Brahmi has been employed as a cognitive enhancer. It has been employed in the medical sector to treat several ailments, including respiratory tract problems, cardiovascular disorders, and psychiatric and neurological abnormalities. The psychological and neurological illnesses encompass anxiety, sleeplessness, epilepsy, and depression. Research has also verified that *Bacopa monniera* possesses antidepressant effects [32].

Albizia Lebbeck: *Albizia lebbeck* is classified in the family Mimosaceae. A study was conducted to evaluate the antidepressant qualities. The study conducted experiments using animal models of depression. According to the study, *Albizia lebbeck* can act as an antidepressant in mice [33]. Nevertheless, additional investigation is necessary to utilize *Albizia lebbeck* as an antidepressant for the management of anxiety and depression.

Clitoria Ternatea: *Clitoria ternatea* is a tropical herb that belongs to the Fabaceae family. This herb is indigenous to India. *Clitoria ternatea* extracts have had a notable impact in improving cognitive function and treating various neurological illnesses. *Clitoria ternatea* roots have been utilized to cure various disorders including sore throat, eye diseases, fever, inflammation, constipation, arthritis, and indigestion. Various research has done experiments on mice and has also proven the antidepressant effects of *Clitoria ternatea* [34].

Cimicifuga Racemosa: *Cimicifuga racemosa* belongs from the genus Cimicifuga. It is a medicinal plant which is widely available in China. *Cimicifuga racemosa* has been used for the treatment of anxiety and depression [35].

Emblica Officinalis: For an extended period, several plants have been utilized in traditional medicine to

address anxiety and despair. *Emblica officinalis*, commonly known as Amla, is utilized for its antidepressant qualities. This plant is composed of alkaloids, carbohydrates, polyphenols, and tannic acid. An experiment was conducted in mice to assess the antidepressant potential of *Emblica officinalis*. The researchers administered two different sorts of assessments: a forced swim test and a tail suspension test. The study's findings validated the efficacy of *Emblica officinalis* as an antidepressant [36].

Crocus Sativus: Saffron, scientifically known as *Crocus sativus*, is readily accessible in Iran. It is a member of the Iridaceae family. Saffron has been utilized in traditional Chinese medicine since antiquity. It possesses antispasmodic, expectorant, and aphrodisiac properties. *Crocus sativus* has also been utilized for the management of mild to moderate depression. A comparative study was conducted to evaluate the efficacy of saffron in comparison to other antidepressants. The findings revealed that saffron had comparable antidepressant effects. The antidepressant effects of *Crocus sativus* are attributed to its antioxidant, neuroendocrine, serotonergic, neuroprotective, and anti-inflammatory characteristics [37].

Zingiber officinale: Ginger, scientifically known as *Zingiber officinale*, has been utilized in traditional medicine to cure a wide range of ailments. The study conducted on mice to assess the antidepressant characteristics of *Zingiber officinale* has verified its potential as an antidepressant [38].

Curcuma Longa: Depression is a notable psychiatric disorder, and multiple alternative medications have been developed for its treatment. *Curcuma longa*, also known as turmeric, has also been recognized as an antidepressant. The material comprises curcumin, a naturally occurring compound with inherent anti-inflammatory and antioxidant properties. Curcumin shows promise in the treatment of anxiety and depressive symptoms [39].

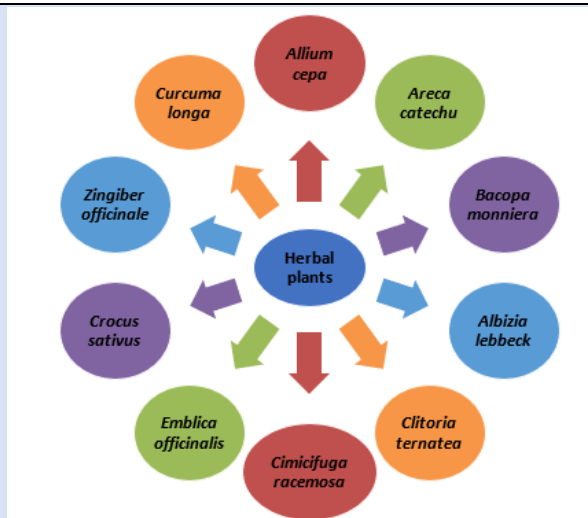


Figure 3: Commonly used medicinal plants are given in the figure.

Conclusion and Future Recommendations

Anxiety and depression are severe psychiatric disorders that can be effectively managed with various conventional medications. However, due to the adverse effects associated with these medications, scientists are currently working on the development of herbal remedies. Herbal plants possess substantial promise as an antidepressant. Herbal treatments have a long history of use, but there is still a need to increase knowledge about the importance of herbal medicines in treating anxiety and depression. Moreover, it is advisable to do further study in the future to harness the potential of medicinal plants and optimize the effectiveness of herbal treatment approaches.

Declarations

Funding

My work was not supported by any funding agencies and doesn't have any grants.

Conflicts of Interest

None.

References

1. Tian-Ci Quek, T., Wai-San Tam, W., X. Tran, B., Zhang, M., Zhang, Z., et al. (2019). The Global Prevalence of Anxiety Among Medical Students: A Meta-Analysis. *International Journal of Environmental Research and Public Health*, 16(15):2735.
2. Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., et al. (2021). Global Prevalence of Depressive and Anxiety Symptoms in Children and Adolescents During COVID-19: A Meta-Analysis. *JAMA Pediatrics*, 175(11):1142-1150.
3. Johns, G., Samuel, V., Freemantle, L., Lewis, J., Waddington, L. (2022). The Global Prevalence of Depression and Anxiety Among Doctors During the Covid-19 Pandemic: Systematic Review and Meta-Analysis. *Journal of Affective Disorders*, 298:431-441.
4. Adwas, A. A., Jbireal, J. M., Azab, A. E. (2019). Anxiety: Insights into Signs, Symptoms, Etiology, Pathophysiology, And Treatment. *East African Scholars Journal of Medical Sciences*, 2(10):580-591.
5. Celano, C. M., Daunis, D. J., Lokko, H. N., Campbell, K. A., Huffman, J. C. (2016). Anxiety Disorders and Cardiovascular Disease. *Current Psychiatry Reports*, 18:1-11.
6. Whiteside, S. P., Sim, L. A., Morrow, A. S., Farah, W. H., Hilliker, D. R., et al. (2020). A Meta-Analysis to Guide the Enhancement of CBT for Childhood Anxiety: Exposure Over Anxiety Management. *Clinical Child and Family Psychology Review*, 23:102-121.
7. Haque, E., Ahmed, F., Chaurasiya, P., Yadav, N., Dhiman, N., et al. (2023). A Review on Antidepressant Effect of Herbal Drugs. *Journal of Pharmaceutical Negative Results*, 2716-2723.
8. Dai, W., Feng, K., Sun, X., Xu, L., Wu, S., et al. (2022). Natural Products for The Treatment of Stress-Induced Depression: Pharmacology, Mechanism and Traditional Use. *Journal of Ethnopharmacology*, 285:114692.
9. Kyaw, S. N. (2023). A Study of Knowledge and Awareness, and Perception on Depression Among Young Adults in Yangon Region (Doctoral dissertation, MERAL Portal).

10. Ogbo, F. A., Mathsyaraja, S., Koti, R. K., Perz, J., Page, A. (2018). The Burden of Depressive Disorders in South Asia, 1990–2016: Findings from The Global Burden of Disease Study. *BMC Psychiatry*, 18:1-11.
11. Centers for Disease Control and Prevention. National Center for Health Statistics. Anxiety and Depression.
12. Cuadros, D. F., Tomita, A., Vandormael, A., Slotow, R., Burns, J. K., et al. (2019). Spatial Structure of Depression in South Africa: A Longitudinal Panel Survey of a Nationally Representative Sample of Households. *Scientific Reports*, 9(1):979.
13. Australian Institute of Health and Welfare. Prevalence and Impact of Mental Illness.
14. Bernaras, E., Jaureguizar, J., Garaigordobil, M. (2019). Child and Adolescent Depression: A Review of Theories, Evaluation Instruments, Prevention Programs, and Treatments. *Frontiers in Psychology*, 10:356946.
15. Qin, D. D., Rizak, J., Feng, X. L., Yang, S. C., Lü, L. B., et al. (2016). Prolonged Secretion of Cortisol as A Possible Mechanism Underlying Stress and Depressive Behavior. *Scientific Reports*, 6(1):1-9.
16. Mikulska, J., Juszczak, G., Gawrońska-Grzywacz, M., Herbet, M. (2021). HPA Axis in The Pathomechanism of Depression and Schizophrenia: New Therapeutic Strategies Based on Its Participation. *Brain Sciences*, 11(10):1298.
17. Cryan, J. F., O'Riordan, K. J., Cowan, C. S., Sandhu, K. V., Bastiaanssen, T. F., et al. (2019). The microbiota-gut-brain axis. *Physiological Reviews*.
18. Liang, S., Wu, X., Hu, X., Wang, T., Jin, F. (2018). Recognizing Depression from The Microbiota-Gut-Brain Axis. *International Journal of Molecular Sciences*, 19(6):1592.
19. Jesulola, E., Micalos, P., Baguley, I. J. (2018). Understanding The Pathophysiology of Depression: From Monoamines to The Neurogenesis Hypothesis Model-Are We There Yet? *Behavioral Brain Research*, 341:79-90.
20. Lee, C. H., Giuliani, F. (2019). The role of inflammation in depression and fatigue. *Frontiers in Immunology*, 10:463031.
21. Kendall, K. M., Van Assche, E., Andlauer, T. F. M., Choi, K. W., Luykx, J. J., et al. (2021). The genetic basis of major depression. *Psychological Medicine*, 51(13):2217-2230.
22. Tonon, A. C., Pilz, L. K., Markus, R. P., Hidalgo, M. P., Elisabetsky, E. (2021). Melatonin And Depression: A Translational Perspective from Animal Models to Clinical Studies. *Frontiers in Psychiatry*, 12, 638981.
23. Zhao, L., Han, G., Zhao, Y., Jin, Y., Ge, T., et al. (2020). Gender differences in depression: evidence from genetics. *Frontiers in genetics*, 11:562316.
24. Yuan, D., Meng, Y., Ai, Z., Zhou, S. (2024). Research trend of epigenetics and depression: adolescents' research needs to strengthen. *Frontiers in Neuroscience*, 17:1289019.
25. Shorey, S., Ng, E. D., Wong, C. H. (2022). Global Prevalence of Depression and Elevated Depressive Symptoms Among Adolescents: A Systematic Review and Meta-Analysis. *British Journal of Clinical Psychology*, 61(2):287-305.
26. Vöckel, J., Markser, A., Wege, L., Wunram, H. L., Sigrist, C., et al. (2024). Pharmacological Anti-Inflammatory Treatment in Children and Adolescents with Depressive Symptoms: A Systematic-Review and Meta-Analysis. *European Neuropsychopharmacology*, 78:16-29.
27. Moragrega, I., Ríos, J. L. (2021). Medicinal Plants in The Treatment of Depression: Evidence from Preclinical Studies. *Planta Medica*, 87(9):656-685.
28. Haque, E., Ahmed, F., Chaurasiya, P., Yadav, N., Dhiman, N., et al. (2023). A Review on Antidepressant Effect of Herbal Drugs. *Journal of Pharmaceutical Negative Results*, 2716-2723.
29. Nadia, M., Maryam, M. (2024). Exploring The Anticancer Potential of Natural Compounds in Traditional Chinese Medicine: A Mini-Review. *Traditional Medicine*, 5(1):1-11.
30. Singh, V., Chauhan, G., Shri, R. (2021). Anti-Depressant Like Effects of Quercetin 4'-O-Glucoside from Allium Cepa Via Regulation of Brain Oxidative Stress and Monoamine Levels in Mice Subjected to Unpredictable Chronic Mild Stress. *Nutritional Neuroscience*, 24(1):35-44.
31. Mansour, A. S., Manchineni, P. R., Gunda, R. K. (2021). Assessment of Antidepressant Profile of Methanolic Extract of Areca Catechu Using Mice as an Experimental Model. *Drug Discovery*, 15(35):108-114.
32. Brimson, J. M., Brimson, S., Prasanth, M. I., Thitilertdech, P., Malar, D. S., et al. (2021). The

- Effectiveness of Bacopa Monnieri (Linn.) Wettst. As A Nootropic, Neuroprotective, Or Antidepressant Supplement: Analysis of The Available Clinical Data. *Scientific Reports*, 11(1):596.
33. Saranya, V. (2021). Biological Screening Methods of Ethanol and Aqueous Extracts of Leaves of Albizia Lebbeck (L.) Benth. in Albino Mice (Doctoral dissertation, JKK Nattraja College of Pharmacy, Kumarapalayam).
34. Deshmukh, N. N., Vyas, J. V., Paithankar, V. V., Wankhade, A. M. (2023). A review on medicinal herbs with potential anti-depressant activities. *Research Journal of Pharmacognosy and Phytochemistry*, 15(3):230-234.
35. Kumar, A., Kafeel, M., Ahmed, K., Rameez, M., Mathew, S. R. (2024). Phyto-Pharmacological Effects of Medicinal Plants for the Treatment of Depression. *Journal of Advanced Zoology*, 45(2).
36. Olatunde, A., Munir, N., Anywar, G., Hanif, M., Waqif, H., et al (2023). Medicinal Herbs against Central Nervous System Disorders. *Phytochemical Drug Discovery for Central Nervous System Disorders: Biochemistry and Therapeutic Effects*, 359-383.
37. Han, S., Cao, Y., Wu, X., Xu, J., Nie, Z., et al. (2024). New horizons for the study of saffron (*Crocus sativus* L.) and its active ingredients in the management of neurological and psychiatric disorders: A systematic review of clinical evidence and mechanisms. *Phytotherapy Research*.
38. Dania, I. A., Rusdiana, R., Rambe, A. S., Harahap, U., Effendy, E., et al. (2024). Active Compounds of Red Ginger as Antioxidant Activity in the Supplementation and Treatment of Depression. *Qubahan Academic Journal*, 4(1):177-184.
39. Brikat, S., Chakit, M., Lamtai, M., Fitah, I., Abouyaala, O., et al. (2023). Effects of Curcuma longa methanolic extract and losartan on anxiety- and depression-like behaviors induced by a high caloric diet in adult female Wistar rats. *Int. J. Chem. Biochem. Sci*, 24(6):886-895.

Cite this article: Nadia M, Maryam M. (2024). Herbal Approaches to Managing Anxiety and Depression: A Critical Review of Evidence, *International Journal of Biomedical and Clinical Research*, BioRes Scientia Publishers. 1(3):1-8. DOI: 10.59657/2997-6103.brs.24.014

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Article History: Received: May 14, 2024 | Accepted: July 18, 2024 | Published: July 25, 2024