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Depression and the Healing Herbs: Exploring Herbal Medicine's Role in Mental Health

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ABSTRACT:
Depression is a prevalent psychiatric disorder with profound effects on both mental and physical health, significantly impacting societal well-being. It is a leading cause of disability worldwide, with a rising prevalence driven by socio-cultural factors, demographic changes, and increased chronic medical conditions. The disorder encompasses various types, including major depression, persistent depressive disorder, bipolar disorder, and seasonal affective disorder. Symptoms range from sadness and loss of interest in activities to severe signs such as suicidal thoughts. Depression's pathophysiology is linked to imbalances in neurotransmitters like serotonin, norepinephrine, and dopamine, as well as disruptions in the hypothalamic-pituitary-adrenal (HPA) axis and neurogenesis.

Despite the availability of antidepressants, treatment outcomes remain suboptimal due to side effects, delayed onset, and relapse. Common antidepressants, such as selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants (TCAs), are frequently prescribed but are often limited by side effects like nausea, insomnia, and sexual dysfunction, as well as the risk of suicidal ideation. This has sparked interest in alternative therapies, particularly herbal medicine, which may offer effective solutions with fewer side effects. Traditional herbs like Glycyrrhiza uralensis (Mulethi), Siphocampylusverticillatus, Curcuma longa (turmeric), and Bacopa monnieri (Brahmi) have demonstrated antidepressant-like effects in animal models, suggesting their potential as viable treatment options. This article emphasizes the need for further research into these herbal therapies to offer safer, more effective alternatives to current pharmacological treatments.

Keywords: Depression, Pathophysiology of depression, Epidemiology of depression, Antidepressant drugs, Medicinal plants.

I. INTRODUCTION

Depression has been labelled the common cold of psychopathology. The comparison is surely, for its coveys the impression of frequent but mild complaint. In reality some depressions end fatally. Depression is responsible for the majority of suicide deaths, those most vulnerable to suicide are depressed and have lost hope (minkoff, kenneth; bergman, eric; beck, aaron t.; 1 Apr 2006) (gilbert, 2017)[1-3].

In many developed countries suicide is in the top ten most frequent causes of death. Depression and anxiety disorders are most common illness in the community and in primary care. Patients with depression often have features of anxiety disorder, and those with anxiety disorder commonly also have depression. Moreover, depression may well reduce life expectancy in certain physical disorders, e.g., cancer (Whitlock & Siskind,1979),(Kautu etal., 2017)[2].

In the World Health Organization (WHO) report on the collaborative study of the assessment ofthe depressive disorders, Sartorius and his colleagues, [Sartorius et al.,1983] maintain that there are probably 100 million depressives in the world and that the number may be increasing because of deleterious sociocultural effects, demographic changes, psychological factors, the increased number of patients with chronic medical disorders, and the widespread use of medications that have depressive side effects(gilbert, 2017)[1].

According to the fifth edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, depression is classified as a mood disorder and causes problems with how a person feels, thinks, acts, and behaves. For a diagnosis of depression, symptoms must be present for at least two consecutive weeks (gilbert, 2017). They can range from mild to severe and may include the following[4]:

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- Feeling sad or having a depressed mood.
- Loss of interest or pleasure in activities once enjoyed.
- Changes in appetite-weight loss or gainun related to dieting.
- Trouble sleeping or sleeping too much.
- Loss of energy or increased fatigue.
- Increase in purposeless physical activity (such as hand-wringing or pacing) or slowed movements and speech (actions observable by others).
- Feeling worthless or guilty.
- Difficulty thinking, concent rating, or making decisions.
- Thoughts of death or suicide (kendler, kenneths.; heath, and rewc.; martin, nicholasg;1987).

Depression is a universal phenomenon. There is a strong correlation between several medical diseases and disorders and mental health issues. For example, people with cardiac problems often have depression, and those who have depression often develop heart disease. It's therefore important that nurses are aware of the history, indications for use, adverse effects, and special considerations related toantidepressant[5].

Between 5 to 13% of primary care patients convey a diagnosis of depression, contributing to morbidity and mortality. Numerous efficacious treatments exist, but nearly four in five depressed individuals worldwide fail to receive nominally adequate treatment. Depression is under-recognized in primary care, contributing o low treatment uptake. Yet, even when recognized half of referred patients fail to attend psychotherapy visits or fill their first prescribed an tide pressant medication.

According to the World Health Organization (WHO), depression affects more than 300 million people worldwide. It is the leading cause of disability globally, knows no age limitation, tends to affect women more than men, and can lead to suicide. Although several treatments are available, the WHO reports that fewer than 50% of people receive treatment. According to the WHO, the number of people affected by depression rose by 18% from 2005 to 2015.

Adults, however, aren't the only people experiencing symptoms of depression. In 2015, the NIMH (National Institute of Mental Health) reported that an estimated 3 million U.S. adolescents 12 to17 years of age had at least one major depressive episode in the past year, with that number representing 12.5% of children in this age group. Major depressive disorder, which is a chronic, recurring form of depression, is regarded as the most common mood disorder among Americans. Although treatment can help manage symptoms in some people, currently there is no cure for this devastating disease[5-11].

DEPRESSION

Depressioncanbedefinedasthemostcommonoftheaffectivedisorders,itisdefinedasdisordersofmoodratherthandisturbancesofthoughtsorcognition;itmayrangefromaverymildcondition,borderingonnormality,toseverepsychoticdepressionaccompaniedbyhallucinationsanddelusions. In other words, depression is a major cause of disability and premature death. Majordepression is a common disorder that continues to result in considerable morbidity and mortalitydespitemajoradvancesintreatment.Wecansaythatmentaldepressioncanaffectstheindividual'smood,physical health, behavior and thoughts[12-16].

TYPEOFDEPRESSION

Majordepression-
:itisastatewhereadarkmoodisallconsumingandonelosesinterestin activities, even ones that are usually pleasurable. Symptoms of this type depressionincludetroublesleeping,changesinappetiteorweight,lossofenergyandfellingworthless.
Thoughts of death orsuicidemayoccur.

Persistent depressive disorder-: formerly called "dysthymia", this type of depressionrefers to low mood that has lasted for at least two years but may not reach the intensity ofmajordepression.Manypeoplewiththistypeofdepressionareabletofunctiondaytoday,butfeelloworjoylessmuchofthetime.Otherdepressivesymptomsmayincludeappetiteandsleep changes, low energy,low self-

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esteem, or hopelessness.

Bipolar disorder-: known as manic-depressive disease, have episodes of depression.Manic symptoms are opposite of depression symptoms: magnificent ideas, unrealisticallyhigh self-esteem, decreased need for sleep, thoughts and activity at higher speed. Beingmanic can feel great, but it doesn't last long and can lead to self-destructive behavior, andisfollowed byaperiod of depression.

Seasonal affective disorder (SAD)-: this type of depression emerges as days get shorterin the fall and winter. The mood change may result from alterations in the body's naturaldailyrhythms,intheeye'sensitivitytolight,orin howchemicalmessengerslikeserotoninand melatonin function. The leading treatment is light therapy, which involves dailysessionssittingclose to an especiallyintenselight source.

Depressiontypesuniquetowomen-:
Perinatal depression-: this type of depressionincludes major and minor depressiveepisodes that occur during pregnancy or in the first 12 months after delivery (also knownaspostpartumdepression).Perinataldepression affectsuptooneinsevenwomenwhogivebirth and can have devastating effects on the women, their infants, and their families.Treatmentincludescounselingand medication.
PMDD-: this type of depression is a severe form of premenstrual syndrome, or PMS.Symptoms of PMDD usually begin shortly after ovulation and end once menstruationstarts. Selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine and sertraline,mayreducesymptoms[17].

SYMPTOMSOFDEPRESSION

- Biologicalcomponents retardationofthoughtandthinking
- Persistentsad,anxious,oremptyfeelings
- Feelingsofhopelessnessorpessimism
- Feelingsofguilt,worthlessness,orhelplessness
- Irritability,restlessness
- Lossof interestin activitiesorhobbiesoncepleasurable,includingse x
- Fatigueand decreased energy
- Difficultyconcentrating,rememberingdetails,an dmakingdecisions
- Insomnia,early-morningwakefulness,orexcessivesleeping
- Overeating,orappetiteloss
- Thoughtsofsuicide,suicideattempts
- Aches,headaches, crampsor digestiveproblems that donot easeeven withtreatment[18-21].

PATHOPHYSIOLOGYOFDEPRESSION

Major depression is a serious disorder of enormous sociological and clinical relevance. Thediscovery of antidepressants drugs in the 1950s led to the first biochemical hypothesis ofdepression,whichsuggestedthatimpairmentincentr almonoaminergicfunctionwasthemajorlesionunderl yingthedisorder.Basicresearchinallfieldsofneurosci nce(includinggenetics)andthediscoveryofnewantide pressantsdrugshaverevolutionizedourunderstanding ofthe mechanismsunderlyingdepressionanddrugaction.Th ereisnodoubtthatthemonoaminergicsystem is one of the cornerstones of these mechanisms, but multiple interactions with otherbrain systems and the regulation of central nervous system function must also be taken thisaccount. Several factors appear to work together to cause or precipitate depressive disorderssymptomsreportedbypatientwithmajordepr essionconsistentlyreflectchangesinbrainmonoamino neurotransmitter specifically, and other neurotransmitters are norepinephrine (NE),serotonin (5-HT), dopamine (DA)[22-24].

MECHANISMBELIVEDINPATHOPHYSIOLOGYOFDEPRESSION

Themaindepressiveaxisinvolvesinthehypothalamic-pituitary-adrenal(HPA)axis,whichisactivated by stress and in turn enhances the excitotoxic action of glutamate, mediated byNMDAreceptorsandswitchesontheexpressionofgenesthatpromotetheneuralapoptosisinthehippocampusandprefrontalcortex.Theanti-depressivepathwaysinvolvedinthemonoaminesnoradrenaline(NA)and5-hydroxytryptamine(5-HT),whichactonkinaselinkedreceptor, switching on the genes that protect neurons against apoptosis and also promoteneurogenesis[25-26].

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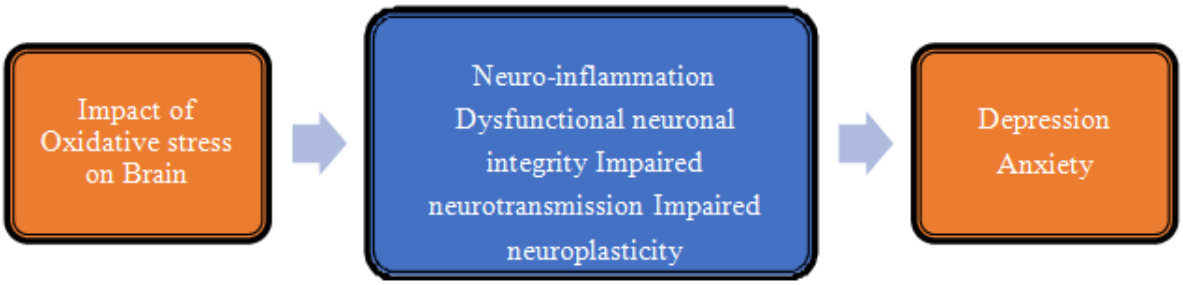
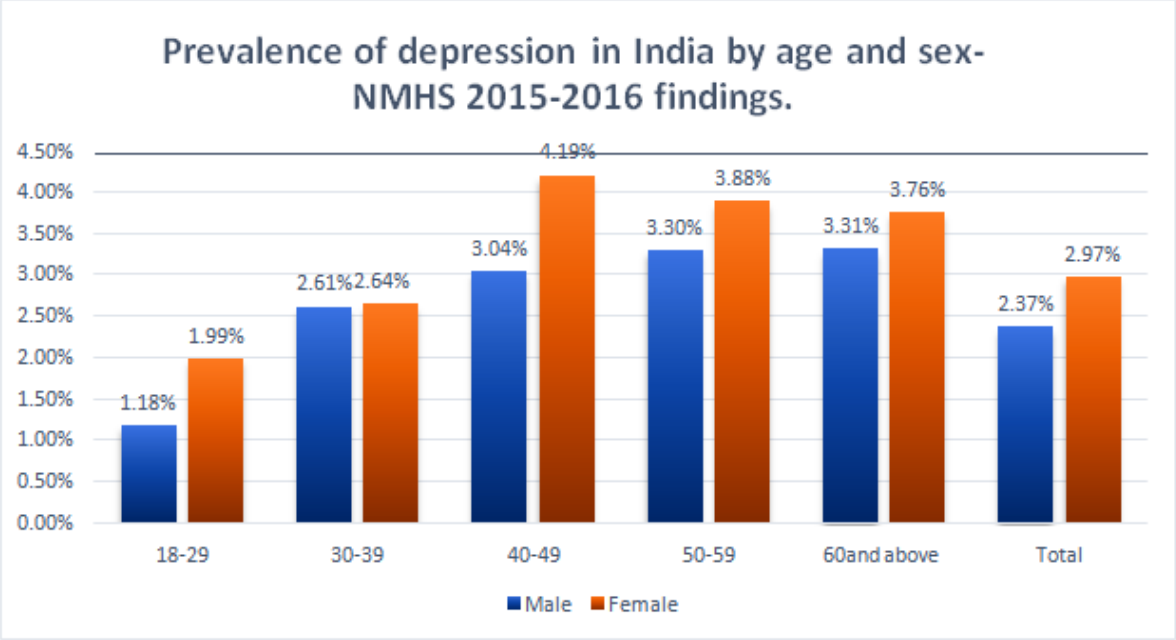


EPIDEMIOLOGYOFDEPRESSION

Theepidemiologyofdepressionhasbeenstudiedacrosstheworld.Depressionisamajorcauseofmorbidityworldwide,astheepidemiologyhasshown.AccordingtotheWorldHealthOrganization(WHO),depressionaffectsmorethan300millionpeopleworldwide.Itistheleadingcause of disability globally, knows no age limitation, tends to affect women more than men, andcanleadtosuicide.Althoughseveraltreatmentsareavailable,theWHOreportsthatfewerthan 50% of people receive treatment. According to the WHO, the number of people affected bydepression rose by 18% from 2005 to 2015. The total number of people with depression wasestimatedtoexceed300millionin2015Worldwide,equivalentto4.3%oftheworld'spopulation.In India, the National Mental Health Survey 2015-16 revealed that nearly 15% Indian adults needactive intervention for one or more mental health issues and one in 20 Indians suffers fromdepression. It is assessed that in 2012, India had over 258 000 suicides, with the age-group of 15-49years beingmost affected[27-28].



Womenareincreasedriskofdepressionfromeasilyadolescenceuntiltheirmid-50'swithlifetimeratethatis1.7-2.7timesgreaterthanformen.Althoughdepressioncanoccuratanyagebutadults18-19 years of age experience highest rates of major depression during any given year. Estimatedlife time prevalence of major depression in individuals aged 65-80 recently was reported to be20.4%in women and 9.6%in men[29].

The prevalence of psychiatric disorders differs between countries and within countries acrossvarious cities. Lifetime prevalence estimates vary widely, from 3% in Japan to 17% in the

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UnitedStates. Epidemiological data shows higher rates of depression in the middle East, North Africa,South Asia and America than in other countries. Among the 10 countries studied, the number ofpeoplewhowouldsufferfromdepressionduringtheir livesfallswithinan8-12%rangeinmost of them. In North America, the probability of having a major depressive episode within any year-longperiod is 3-5%for males and 8-10%forfemales[30].

ANTIDEPRESSANTS

Antidepressants are those drugs which help in the reduction in symptoms of depressive disordersby altering chemical imbalances of neurotransmitters in the brain. The change in mood andbehavior is due to chemical imbalance. Neurotransmitters are the communication link betweenneuronsin the brain. Neurotransmitter arelocatedinvesicles found in nervecells[31].

The neurotransmitter such as serotonin, dopamine, and noradrenaline are released by the exonicendofonenerveandreceivedbytheother,thephenomenoncalledasreuptake.Theantidepressantsinhibitreuptakeofneurotransmittersthroughselectivereceptorstherebyincreasing the concentration of specific neurotransmitter around the nerves in the brain. One ofsuch antidepressants is selective serotonin reuptake inhibitor (SSRI), which affects the brainserotonin level. Antidepressants may recover the signs of depression, but also exert some sideeffects[32].

Antidepressantsandtheirclassification[33-34]-:
Tricyclicantidepressants (TCAs),
Selectiveserotonin-reuptakeinhibitors(SSRIs),
Monoamineoxidaseinhibitors(MAOIs),
Atypicalantidepressant.

S.No.	Typesof drug	Sideeffects
1.	**ReversibleinhibitorsofMAO-A-:** Moclobemide,clorgyline	Cheese reaction, nausea,insomnia,agitation,weight gain,liverdamage.
2.	**Tricyclicantidepressants-:** a. NA+5-HTreuptakeinhibitors-:imipramine, amityptaline, clomipramine,imipramine,doxepin. b. PredominantlyNAreuptakeinhibitors-:desipramine,nortriptyline, amoxapine.	Sedation,drymouth,constipation, blurred vision,urinaryretention,seizures,postural hypotension,impotence,interactionwith CNSdepressants.
3.	**Selectiveserotoninreuptakeinhibitors-:** fluoxetine,fluvoxamine,paroxetine,sertraline.	Nausea,diarrhea,agitation, insomnia, anorgasmia, inhibitmetabolismofother drugs.
4.	**Atypicalinhibitors-:** Trazodone,duloxetine,bupropion.	Bradycardia,seizures,drymouth, epigastric pain, tremor, bodyache.

DRAWBACKSWITHCURRENTTHERAPEUTICS

Nowadaysresearchersfacingmany problemsinthediagnosticclassificationandtreatments trategies for depression because of lack of clear biological pathogenesis. The diagnostic criteriafor depressive disorders in the International Statistical Classification of Diseases and RelatedHealth Problems 10th Revision (ICD-10) and the fifth edition of the Diagnostic and StatisticalManual of Mental Disorder (DSM-5), require individual to display at least five out of ninesymptoms almost daily for at least two weeks and that these five symptoms must include either adepressive mood or a lack of interest or pleasure. The delayed onset of action of antidepressantsbecomes a critical factor in

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the particular cases of depressions, in which the risks of suicide arestrongly increased. The limited efficacy of antidepressants also a major limitation as they act byincreasing monoamine levels, although individuals with depression do not suffer lower levels oftheseneurotransmitter[36].

Antidepressantsproducecommonsideeffect slikeinsomnia,skinrashes,headaches,joint,muscle pain, stomach upset, diarrhea or nausea. These problems are usually temporary ormild or both.

A more serious potential problem is reduced blood clotting capacity because of decreasedconcentrationsof theneurotransmitter serotonin inplatelets.

The serious side effects associated with the use of antidepressants may include serotoninsyndrome,hyponatremia,allergicreactions, mania and seizures.

Researches also reported that antidepressant increase the risk of having suicidal thoughts andduring pregnancy cause neonatal abstinence syndrome. However, high rates of relapse afterdiscontinuing antidepressants are also affect the effectiveness of the treatment. As the currentlyavailable treatments associated with several limitations, there is need of further novel targets fortheeffectivetreatment ofdepression[37-38].

2°COMPLICATIONS

- Bladderandbowelproblems.
- Lossofappetite.
- Lossoflibido.
- Irregularheartbeat.
- Seizures.
- Hyponatremia.
- Psychosis.
- Longterm useof SSRIsand TCAsincreased riskof developingType-2Diabetes[39-40].

NEEDSOFHERBALDRUGFORNEWTHERAPEUTICS

The ultimate aim of antidepressants therapy is to stop or slow down the disease progression. Butthe allopathic treatments have limited efficacy and have been reported to be associated withundesirablesideeffects.Theinabilityofantidepressantsagentstoprovideanadequateexplanationfor the shortcomings such as high/low treatment resistance rate, treatment failure, slow onset ofaction, side effects. To overcome these limitations associated with synthetic antidepressantsinterest has been shifted to use of other alternative medicine. Herbal medicines still remain thewidespread choice in the developing countries due to their ease of availability, lesser side effectsandlowercost.WorldHealthOrganization(WHO)hasrecommendedthetraditionalplantforthetreatment of various disease. Moreover, today it is necessary to provide scientific proof as towhetheritisjustifiedtouseaplantoritsactiveprinciplesfortreatment.Traditionalmedicineandextractsfrom medicinalplantshavebeenextensivelyusedasalternativemedicineforbettercontroland management of depressivedisorder[41-42].

The mechanisms by which herbs generally act are not established, however, most of medicinalplantpossessantioxidantactivities.Antioxidantactivitiesofherbalmedicinesarealsoeffectiveinreducing the toxicities of toxic agents or other drugs. The aim of herbal drugs is to integrate andbalance the body, mind and spirit to prevent disease and promote wellness. In the past 10 years,howeverherbaldrugshaveseldombeenapprovedforusealoneintreatingdepression.Accordingtocurrentevidence,someoftheseherbalplantsshowpromising resultstoovercomedepression[43].

MEDICINAL PLANTASANTI-DEPRESSANTS

Glycyrrhizauralensis(Mulethi): Manyflavonoidsextractedfromnatureplantshavebeenreportedtoexertantidepressant-likeeffectinanimalstudies.Thepresentstudywas designedtoobservetheeffectsofliquiritin,aflavonescompoundderivedfromGlycyrrhizauralensis,onthebehaviorsofchronicvariablestressinduceddepressionmodelratsandtoexplore the possible association between its antidepressant-like effect and antioxidativeactivitybymeasuringerythrocytesuperoxidedismutase(SOD)activityandplasmamalondialdehyde(MDA)level of theexperimentalanimals[44].

Siphocampylusverticillatus: The antidepressant-like effect of the hydroalcoholic extractobtainedfromaerialpartsofSiphocampylusverticillatus,aBrazilianmedicinalplant,wasinvestigated in two models of depression in mice and against synaptosomal uptake ofserotonin,noradrenalineanddopamine.Theimmobilitytimesintheforcedswimmingtest(FST)andin thetail suspensiontest(TST)weresignificantlyreducedbytheextract(doserange100–1000mg/kg,i.p.),withoutaccompanyingchangesinambulationwhenassessedin an open-field. Its action seems to involve an interaction with adrenergic,

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dopaminergic,glutamatergicand serotonergic systems[45].

Allium macrostemon(Chinese garlic): The aim of this study was to identify the effectsof water extracts of Allium macrostemon Bunge (AM-W), a traditional herb, in mice. Theantidepressant-like activities of AM-W were evaluated through behavioral despair inforced swimmingtest and tail suspension test[46].

Curcuma longa: Curcuma longa (turmeric) is a well-known indigenous herbal medicine.The aqueous extracts, when administered orally to the mice from 140 to 560 mg/kg for 14days, were able to elicit dosedependent relation of immobility reduction in the tailsuspension test and the forced swimming test in mice. The effects of the extracts at thedose of 560 mg/kg were more potent than that of reference antidepressant fluoxetine. Theactivity of C. longa in antidepressant may mediate in part through MAO A inhibition inmousebrain[47].

Piper tuberculatum(blackpepper): In the present work, we studiedthe effectsofpiplartine(PIP),anamidealkaloidisolatedfromtherootsofPipertuberculatum(Piperaceae), in the elevated plus maze, open field, rota rod, pentylenetetrazole (PTZ)-induced seizures, and forced swimming tests, in mice (Swiss, male, 25 g) to assessAnxiolytic,sedative,musclerelaxant,anticonvulsantandantidepressanteffects,respectively.
Furthermore, a significant and dosedependent decrease in the immobilitytime,asevaluatedbytheforcedswimmingtest,wasobservedafterPIPadministration (41% and 75% decrease, at the doses of 50 and 100 mg/kg, respectively), suggesting anantidepressanteffect,similarlytothatobservedwithimipramine,aclassicalantidepressantdrug used as standard. In conclusion, we showed that PIP presents significant Anxiolyticandantidepressantactivities,makingthisdrugpotentiallyusefulinanxietyanddepression[48].

Emblica officinalis (amla): Depression is a widespread psychiatric disorder affectingaround 5% of the population. Furthermore, it is difficult to predict which patient willrespond to any given treatment. In the traditional systems of medicine, many plants andformulations have been used to treat depression for thousands of years. The present studywasundertakentoevaluatetheantidepressantpotentialofacuteandchronicadministrationofEOinforceds wimtest(FST)andtailsuspensiontest(TST).Theantidepressantactivity ofEOwascomparabletothatofstandarddrugimipramine.Theresultsofthepresentstudyindicatethepotential for useof EO asan adjuvantin thetreatment of depression[49].

Bacopa monnieri (Brahmi): Bacopamonniera Wettest. (Syn. Herpestismonniera L.;Scrophulariaceae)isacommonlyusedAyurvedicdrugformentaldisorders.Thestandardizedextractwasreportedearliertohavesignificantanti-oxidanteffect,AnxiolyticactivityandimprovememoryretentioninAlzheimer'sdisease.Presently,thestandardizedmethanolic extract of Bacopa monniera (bacoside A - 38.0+/-0.9) was investigated forpotential antidepressant activity in rodent models of depression. The effect was comparedwiththestandard antidepressant drugimipramine(15 mg/kg, ip)[50].
Thesearesomefewexamplesthatshowedherbalmedicineusedastherapeuticnowadays.

II. CONCLUSION

Depression is a widespread and debilitating mental health disorder that affects millions of people worldwide. It is a significant cause of disability, morbidity, and mortality, with increasing prevalence rates globally. Depression is not only associated with emotional distress but also with a range of physical symptoms and complications, including an increased risk of suicide. Despite the availability of several antidepressant treatments, a large number of individuals suffering from depression do not receive adequate care, and many treatments have limitations, such as delayed onset, side effects, and high relapse rates.

While conventional antidepressants, including SSRIs, TCAs, and MAOIs, are commonly used, they are not without drawbacks, including side effects like gastrointestinal disturbances, insomnia, and sexual

dysfunction. Moreover, the limited efficacy and long onset time of these treatments highlight the need for alternative therapeutic options.

Herbal medicines have gained attention as potential antidepressant treatments, particularly due to their lower cost, fewer side effects, and long-standing use in traditional medicine. Several medicinal plants, such as Glycyrrhiza uralensis, Siphocampylusverticillatus, Curcuma longa, and Bacopa monnieri, have shown promising antidepressant-like effects in preclinical studies,

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often through mechanisms involving neurotransmitter modulation and antioxidant activities.

Therefore, further research into the efficacy, safety, and mechanisms of action of these herbal remedies is essential. Integrating herbal therapies with conventional treatments could offer more effective, accessible, and holistic solutions for managing depression, particularly in resource-limited settings. The potential for herbal medicine to complement existing treatments holds promise for improving outcomes for those struggling with depression.

REFERENCES

[1]. GilbertPaul;'Depression-theevolutionofpowerlessness';1st editionpublishedbyRoutledgein 1992; chapter-1, pageno.-3-6.
[2]. (minkoff,kenneth;bergman, eric;beck, aaront.;,1 Apr2006)
[3]. (kendler,kenneths.;heath,andrew c.;martin,nicholasg.;,1987)
[4]. https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-20356007
[5]. National Heart, Lung, and Blood Institute. Heart disease and depression: a two-wayrelationship.2017Apr16.https://www.nhlbi.nih.gov/news/2017/heart-disease-and-depressiontwo-way-relationship.
[6]. World Health Organization. Depression [fact sheet]. 2018. http://www.who.int/en/news-room/fact-sheets/detail/depression.
[7]. WorldHealthOrganization."Depression:let 'stalk"saysWHO,asdepressiontopslistofcausesofillhealth[pressrelease].2017Mar30.http://www.who.int/en/news-room/detail/30-03-2017--depression-let-s-talk-says-who-as-depressiontops-list-of-causes-of-ill-health.
[8]. https://www.nimh.nih.gov/health/statistics/major-depression.
[9]. Shtml.HillhouseTM,PorterJH.Abriefhistoryofthedevelopmentofantidepressantdrugs:frommonoamines to glutamate.Exp Clin Psychopharmacol 2015;23(1):1-21.
[10]. AmericanPsychiatricAssociation.Diagnosticandstatisticalmanualofmentaldisorders:DSM-5.5th ed. 2013.
[11]. American Psychiatric Association. What is depression? 2017.
[12]. https://www.psychiatry.org/patients-families/depression/whatis-depression.8.NationalLibraryofMedicine. Depression.Bethesda,MD;2018.Geneticshomereference;https://ghr.nlm.nih.gov/condition/depression genes.
[13]. Gorman JM. Comorbid depression and anxiety spectrum disorders. DepressAnxiety1996-1997;4: 160-168.
[14]. Pollack MH. Comorbid anxiety and depression. J Clin Psychiatry 2005; 66 Suppl 8: 22-29.
[15]. Gonçalves DC, Pachana NA, Byrne GJ. Prevalence and correlates of generalized anxietydisorderamongolderadultsintheAustralianNationalSurveyofMentalHealthand Well-Being.JAffect Disord 2011;132: 223-230.
[16]. RegierDA,RaeDS,NarrowWE,etal.Prevalenceofanxietydisordersandtheircomorbidity with mood and addictive disorders.Br JPsychiatrySuppl 1998; (34):24-28.
[17]. KesslerRC,ChiuWT,DemlerO,etal.Prevalence,severity,andcomorbidityof12-monthDSM-IV disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry2005; 62:617-627.
[18]. https://www.health.harvard.edu/mind-and-mood/six-common-depression-types)
[19]. RushAJ,WeissenburgerJE:MelancholicsymptomfeaturesandDSM-IV.AmJPsychiatry1994; 151:489–498
[20]. FlintAJ,BlackSE,Campbell-TaylorI,GaileyGF,LevintonC:Abnormalspeecharticulation, psychomotor retardation, and subcortical dysfunction in major depression. JPsychiatrRes 1993; 27:309–319
[21]. NelsonJC,CharneyDS:Thesymptomsofmajordepressiveillness.AmJPsychiatry1981
[22]. https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-
[23]. Dunlop, B. W., & Nemeroff, C. B. (2007). The role of dopamine in the pathophysiologyofdepression. Archives of general psychiatry, 64(3), 327-337.
[24]. Hasler, G. (2010). Pathophysiology of depression: do we have any solid evidence ofinterestto clinicians?World Psychiatry, 9(3),155
[25]. Srinivasan,V.,Pandi-Perumal,S.R.,Trakht,I.,Spence,D. W.,Hardeland, R.,Poeggeler,B., &

Cardinali, D. P. (2009). Pathophysiology of depression: role of sleep and themelatonergicsystem.Psychiatryresearch , 165(3),201-214.

[26]. Ruiz, N. A. L., Del Ángel, D. S., Olguín, H. J., & Silva, M. L. (2018). Neuroprogression:thehiddenmechanismof depression. Neuropsychiatricdiseaseandtreatment,283 7-2845.

[27]. Bibring,E.(1953).The mechanismofdepression.

[28]. Angst, J. (1992). Epidemiology of depression. Psychopharmacology, 106(Suppl 1), S71-S74.

[29]. Kessler,R.C.(2006).Theepidemiologyofde pressionamongwomen. Womenanddepression:Ahandbookfor thesocial, behavioral,and biomedical sciences, 22-37.

[30]. Weissman,M.M.,Leaf,P.J.,HolzerIII,C.E., Myers,J.K.,&Tischler,G.L.(1984).Theepid emiology of depression: An update on sex differences in rates. Journal of affectivedisorders,7(3-4), 179-188.

[31]. Burt, V. K., & Stein, K. (2002). Epidemiology of depression throughout the female lifecycle.Journal of Clinical Psychiatry, 63, 9-15.

[32]. Frazer,A.(1997).Antidepressants.Journalof ClinicalPsychiatry,58(SUPPL.6),9-25.

[33]. Maes, M. (2001). The immunoregulatory effects of antidepressants. HumanPsychopharmacology:Clinical and Experimental,16(1), 95-103.

[34]. Shelton, R. C. (2003). Classification of antidepressants and their clinicalimplications. PrimaryCareCompanion. JClin Psychol, 5,27-32.

[35]. https://www.rxlist.com/antidepressants/dr ug-class.htm

[36]. https://www.google.com/search?sxsrf=AP wXEdf3ncNrvOcyBN8Jt7FXnZSyuQCm3 A:1686843891074&q=classification+of+a ntidepressants+with+side+effects&tbm=is ch&sa=X&ved=2ahUKEwjBnqyXz8X_A hWA-DgGHa_TAEwQ0pQJegQIBRAB&biw=1 366&bih=600&dpr=1#imgrc=yvik4be4tF Zs9M

[37]. Manosso, L. M., Moretti, M., & Rodrigues, A. L. S. (2013). Nutritional strategies fordealingwith depression.Food&function, 4(12),1776-1793.

[38]. Wouters, H., Van Dijk, L., Van Geffen, E. C. G., Gardarsdottir, H., Stiggelbout, A. M., &Bouvy,M.L.(2014).Primary-carepatients'trade-offpreferenceswithregardtoantidepressants .Psychological medicine, 44(11),2301-2308.

[39]. Rancurello,M.(1986).Antidepressantsinchi ldren:Indications,benefits,andlimitations.A merican Journal of Psychotherapy,40(3),377-392.

[40]. https://www.webmd.com/depression/guide /depression-complications

[41]. https://www.welcomecure.com/diseases/d epression/complications

[42]. Sahoo,N.,Manchikanti,P.,&Dey,S.(2010). Herbaldrugs:standardsandregulation.Fitote rapia, 81(6), 462-471.

[43]. Garg, P., Alambayan, J., & Garg, V. (2023). Herbal Approaches in the Management ofMentalDepression. CNS& NeurologicalDisorders-DrugTargets(FormerlyCurrentDrugTarget s-CNS&Neurological Disorders), 22(1), 98-124.

[44]. Ernst,E.,Rand,J.I.,&Stevinson,C.(1998).C omplementarytherapiesfordepression:anov erview.Archives of general psychiatry, 55(11),1026-1032.

[45]. Zhao Z, Wang W, Guo H, Zhou D (2008). Antidepressant-like effect of liquiritin fromGlycyrrhizauralensisinchronicvariable stressinduceddepressionmodelrats.Behavio uralBrainResearch 194(1):108-113.

[46]. LeeS,KimDH, LeeCH,JungJW,SeoYT,JangYP,RyuJH(20 10). Antidepressant-likeactivityoftheaqueousextractofAlliumm acrostemoninmice.JournalofEthnopharmac ology131(2):386-395.

[47]. YuZF,KongLD,ChenY(2002).Antidepress antactivityofaqueousextractsofCurcumalo ngain mice. Journal ofEthnopharmacology83(1-2):161-165.

[48]. Cícero Bezerra Felipe F, Trajano Sousa Filho J, de Oliveira Souza LE, Alexandre SilveiraJ, Esdras de Andrade Uchoa D, Rocha Silveira E, DeusdêniaLoiola Pessoa O, de BarrosVianaGS(2007)Piplartine,anamideal

kaloidfromPipertuberculatum,presentsanxiolyticandantidepressant effects in mice.Phytomedicine14(9):605-612.

[49]. PemminatiSudhakar, N.H Gopalakrishna,Shenoy K Ashok,S.SSudhanshu,MishraShishir, Meti Vinayak, Vinod Nair (2010). Antidepressant activity of aqueous extract offruitsof Emblicaofficinalis in mice. 2(1), 449-45.

[50]. Sairam K, Dorababu M, Goel RK, Bhattacharya SK (2002). Antidepressant activity ofstandardized extract of Bacopa monniera in experimental models of depression in rats.Phytomedicine9(3):207-211.

[51]. Bhattacharya SK, Bhattacharya A, Sairam K, Ghosal S (2000). Anxiolytic-antidepressantactivity of Withaniasomniferaglycowithanolides: an experimental study. Phytomedicine7(6):463-469.