

Wonders of Phytomedicine in the management of neurological disorders

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Abstract: Neurological disorders exhibit its impact on global health. The term neurological disorders mean any condition that occurs due to dysfunction in nervous system or brain as a result shows plethora of symptoms such as sensation loss, pain, muscle weakness, etc. Utilization of synthetic drugs to treat neurological disorder is quite challenging as it has some drawbacks like not cost effective, unavoidable and serious side effects as well as less patient compliance. Therefore, phytomedicines has been preferred as an alternative treatment of neurological disorders due to its variety of merits like cheap, exert negligible side effects, etc. Herbs can be prescribed as a single entity or mixture of different plants against such disorders. This review describes the phytomedicines used to treat CNS specific pharmacologic effects (like anxiolytic, anti-convulsant, analgesic, etc.), ranging from entire plant, bark, flowers, roots, fruit, stem and seeds.

Keywords: Phytomedicines; nervous system; CNS; synthetic drugs; nervous system

1. INTRODUCTION:

The nervous system is complex and complicated system that regulate and coordinate the body's basic functions. Our whole body is controlled by nervous system. If any problem is occurred in our nervous system then the all functions of body get disturbed. Therefore, the treatment of neurological disorder is important [1]. Now days the mostly people depend on the herbal medicines for primary healthcare, although these disorders are usually no more consider as ordinary diseases. Various individual with mental weakness like epilepsy are seriously indulged by health-related stigma and intolerance regulations. Thus, epilepsy showing the most serious common chronic neurological disease, approximately affects the 10 million people in the world. Other diseases like Parkinson's, Alzheimer these are also increased day by day. Neurological disorders also affect the breathing mood, speaking movement and memory. Neurological disorders affect the brain and spinal cord of our body. Thus, treatment of neurological disorder is expensive and also causes more side effects.

Herbal medicines are used in neurological disorders to decrease the side effects and cure the disease. Herbal medicines have wide safety range as compared to other medicines [2].

Neurological disease

1. Migraine

Migraine is the type of headache which is caused by the repetition of moderate to severe headache. Migraine usually one sided along with the photophobia, nausea, that show the negative effect on the patient's life. Migraine is also responsible for the cervical artery, structural changes in brain and stroke. Sometimes optimal migraine intercession may be helpful for the welfare of the patients and to prohibit other diseases caused by migraine. Innumerable treatments are used to prevent and decrease the seriousness of the pain. For all that antidepressant, beta blockers and anticonvulsant drugs are used broadly. They have to face problems like depression, tremor, constipation and weight gain are inescapable and these become the hurdles in the treatment of migraine. However, it can begin at any age but the initial attack occurs at adolescence and also in old age [3].

Migraine headache is chronic headache caused by frequent pulsing pain in one side of head. But typically spread all over the head and its common symptoms are nausea, vomiting, sensitive to light (photophobia). Genetic factors and environment factors are also contributing in the onset development and seriousness of headache [4].

Classification of migraine: migraine is of two types:

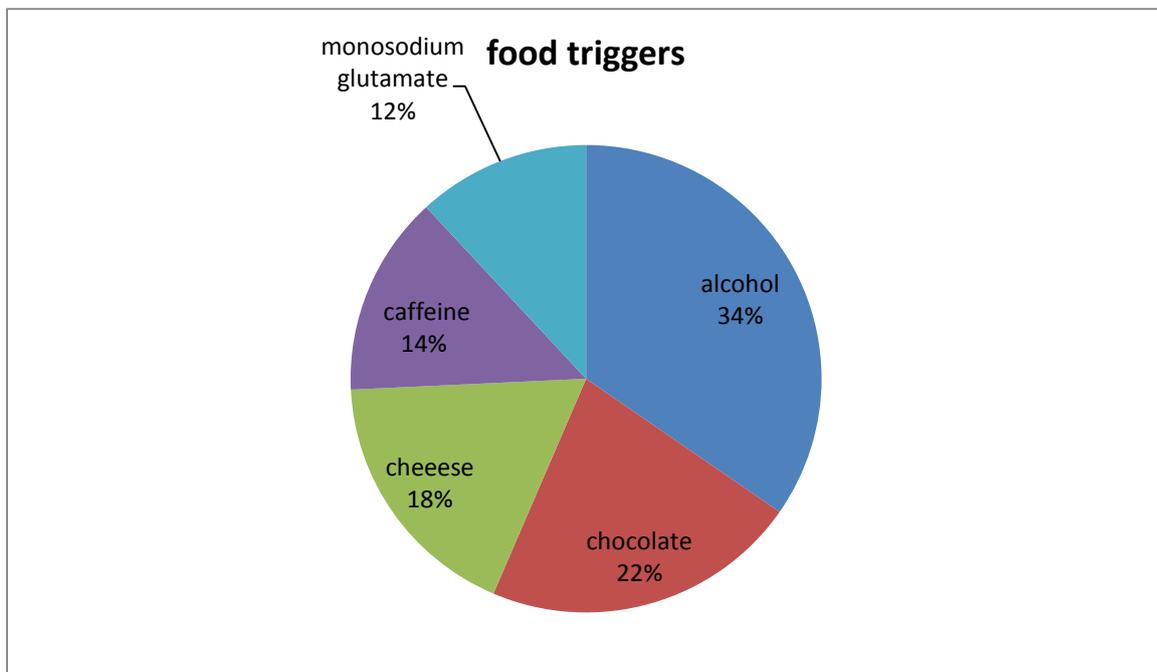
- a) **Migraine without aura:** in this type of migraine particular brain disorders are recognized by pulsating quality, one sided and moderate to severe headache; nausea, sensitive to light. Out of 100 patient, 80 patients are suffered from the subtype of aura.as compared to migraine with aura in this the constant and severe attack. Migraine without aura is also related with the menstrual cycle and classified under this subtype [5].
- b) **Migraine with aura:** in this type of migraine the repeated headache attack is occurs for 6-20 minutes and stable for less than one hour (60 minutes). Aura is surrounding with the central neurological symptoms which may leads to the migraine attack. The form of migraine in which the patients suffered from the motor weakness are classified in this [3].

Symptoms of migraine:

- a) **Prodrome:** before one or two days these migraine symptoms may be seen:
 - Constipation
 - Food cravings
 - excessive thirst and urination
 - constant yawning
 - Neck stiffness
 - Mood swings
- b) **Aura:**
 - Vision lose
 - Weakness and paralysis in one side of body
 - Difficulty speaking
 - prickling sensations in an arms and legs
 - Hearing noises

- Uncontrollable jerking or other movements
- Visual phenomena
- c) **Attack:**
 - Blurred vision
 - Pain on one side or both sides of head
 - Nausea and vomiting
 - Pulsating pain
 - photosensitive
- d) **Post drome:**
 - Moodiness
 - Nausea and vomiting
 - Confusion
 - Dizziness
 - Sensitivity to light and sound

Migraine triggers: Several factors can trigger migraine attacks it includes highly caffeinated beverages which may trigger migraine. Alcohol, chocolate, cheese, citrus fruits, and food containing additive tyramine, aspartame and the preservative Mono Sodium Glutamate (MSG) also contribute to trigger migraine. Irregular meal time and dehydration have also been named as potential migraine. Sensory Stimulation and Hormonal Changes: Loud noises, or strong smells, unusual bright lights may cause migraine headache. Hormonal shifts are common migraine trigger for women. A woman’s suffering from migraine headache before or during their menstruation period. During pregnancy or during menopause other hormone can induce migraine. This pain generally occurs because of fluctuations in level of estrogens and can trigger a migraine medication such as hormone replacement therapies and birth control pills can trigger or worsen pain of migraine. Some sleeping pills, vasodilators such as



nitroglycerine and oral contraceptives can aggravate migraine [4].

Figure 1: depicts migraine trigger

Preventions:

- Sleep
- Eat regular meals
- Exercise regularly
- Limit stress
 - Meditate
 - Listen to calming music
 - Take a short walk
 - Do yoga

Role of Ayurveda in migraine:

A traditional system of Ayurvedic medicines used by many Indians nowadays. It is the complete equilibrium of the body, mind, and spirit, including emotions and psychology. Ayurveda comprise of consideration rejuvenation, longevity, and self- realization therapies through herbs, diet, exercise, yoga, aromas therapy and meditation. An effective acid–alkali stability in the body may be responsible for decline in the frequency of migraine. There is a near close correlation between the symptoms of migraine with those of Amla-pitta of Ayurveda (where a state of acid–alkali imbalance in the body) causing symptoms such as: confusion, fainting, anorexia, fatigue, vomiting, nausea, sweetness in the mouth, and headache. So, the correlation between the cause and symptoms of Amla-pitta of Ayurveda match the current diagnostic criteria of migraine [6-11].

Table 1: Herbal medicines used in migraine: [6-11, 12]

Scientific name	Family	Local name	Part use
<i>Matricaria recutita</i>	<i>Compositae</i>	Chamomile	Patel
<i>Paliurus spina</i>	<i>Rhamnaceae</i>	Sipa	Leaf,stem
<i>Violo tricolor</i>	<i>Umbelliferae</i>	Gole banoushe	Flower,branches
<i>Curcuma longa</i>	<i>Zingiberaceae</i>	Turmeric	Rhizome
<i>Zingiber officinale</i>	<i>Zingiberaceae</i>	Ginger	Rhizome
<i>Syzygium aromaticum</i>	<i>Myrtaceae</i>	Clove	Fruit
<i>Allium sativum</i>	<i>Amaryllidaceae</i>	Garlic	Bulb
<i>Coriandrum sativum</i>	<i>Apiaceae</i>	Coriander	Seed
<i>Angelica sinensis</i>	<i>Umbellifereae</i>	Dang Gui	Dried root
<i>Harpagophytum procumbens</i>	<i>Pedaliaceae</i>	Grapple plant	Roots, tubers

<i>Boswellia serrate</i>	Burseraceae	Guggulu	Resin
<i>Tanacetum parthenium</i>	Asteraceae	Feverfew/ featherfew	Dried leaves
<i>Cannabis sativa</i>	Cannabinaceae	Bhang	Fruit
<i>Hypericum perforatum</i>	Hypericaceae	Choli phulya	Plant extract
<i>Corydalis yanhusuo</i>	Papaveraceae	Asian corydalis	Roots
<i>Bryonia alba</i>	Cucurbitaceae	White Bryony	Roots
<i>Valeriana officianalis</i>	Caprifoliaceae	Tager	Roots
<i>Eschscholtzia californica</i>	Papaveraceae	California Poppy	Areal part
<i>Salix alba</i>	Salicaceae	Bhushan	Bark
<i>Populus tremuloides</i>	Salicaceae	White poplar	Bark
<i>Capsicum frutescens</i>	Solanaceae	Cayenne pepper	Fruit
<i>Symphytum officinale</i>	Boraginaceae	Comfrey	Roots and leaves
<i>Ginkgo biloba</i>	Ginkgoaceae	Ginkgo	Leaf
<i>Centella asiatica</i>	Umbellifers	Mandookparni	Whole plant
<i>Viburnum opulus</i>	Adoxaceae	Cramp Bark	Bark and root
<i>Viburnum prunifolium</i>	Adoxaceae	Black Haw	Bark
<i>Scutellaria laterifolia</i>	Lamiaceae	Skullcap	Arial parts
<i>Scutellaria baicalensis</i>	Lamiaceae	Huang qin	Arial parts
<i>Rosa canina</i>	Rosaceae	Dog rose	Fruits
<i>Solidago chilensis</i>	Asteraceae	Brazilian Arnica	Arial parts
<i>Piper Longum</i>	Piperaceae	Piperaceae	Fruit
<i>Eclipta alba</i>	Asteraceae	Bhringaraj	Whole plant

<i>Cinnmorum zeylanica</i>	Lauraceae	Dalchini	Bark
<i>Bambusa arundinaceae</i>	Poaceae	Bamboo	Vansh lochan
<i>Ellettaria cardamomum</i>	Zingiberaceae	Elaichi	Fruit
<i>Cinnamomum Cassia</i>	Lauraceae	Chinese cassia	Bark
<i>Ferula northax</i>	Apiaceae	Devil's dung	Resin
<i>Citrus acida</i>	Rutaceae	Lamon	Fruit
<i>Petasites Hybridus</i>	Asteraceae	Butterbur	Leaves
<i>Sapindus trifoliatus</i>	Sapindaceae	Reetha	Fruit
Citrus limon	Rutaceae	Nimboo	Fruit

2. Epilepsy

It is the most common persistent neurological condition that is distinguished by recurrent unprovoked epileptic seizures. These seizures are short-term signs or symptoms due to abnormal excessive or synchronous neuronal activity in the brain. It affects around 50 million people worldwide. It is defined as demonstrations of paroxysmal and disordered neuronal discharges in the brain. The different types of seizures can be recognized on the basis of their clinical phenomenon. Though conventional medical treatments for epilepsy are not equally effective. A big large number of agents called anti-epileptic drugs are available to cure the epileptic conditions by inhibiting side effects on the body. The ideal and good drugs are effective to show anti-epileptic conditions of seizures. So, traditionally ayurvedic herbal drugs are used to cure and to inhibit the seizures condition in the patients [13].

It is a neurological disorder condition that has been marked by sudden re-current episodes of the sensory disturbance, abnormal, disorderly discharging of the brain's nerve cells, resulting in a non-permanent disturbance of motor, sensory, or mental function.

Classification: Seizures collapse under two categories and they are: [14]

- a) Focal or partial Seizures
 - b) Generalized Seizures
- a) **Partial or focal seizures:** In this, seizures appear to result from abnormal activity in just one area of your brain; they're called as focal/partial seizures. Thus, these seizures categorized into two categories:
- i) **Focal seizures without loss of consciousness.** Likely called as simple partial seizures, these seizures normally don't cause a loss of consciousness. They may alter a person's emotions or change the way of thinking of look, smelling an odor, feel, taste or sound related to any noise. May also results

- in involuntary jerking condition of any body part, such as an arm or leg, and immediate sensory symptoms such as tingling, dizziness and flashing lights.
- ii) **Focal seizures with impaired awareness.** It is likely called as complex partial seizures; these seizures have a change or loss of consciousness or awareness in a person. During this seizure, a person may stare into space and not respond normally to the environment or perform repetitive movements, such as hand rubbing, chewing, swallowing or walking in circles around the area.
- b) **Generalized seizures:** In this, seizures appear to result from abnormal activity in all area of the brain; they are called as grand mal seizure and generalized seizures. Thus, these seizures can categorize into six categories:
- i) **Absence seizures:** Absence seizure is likely called as petit mal seizures. Generally occurred in children and identified by the staring at the open thing or point without blinking their eyes and mouth watering. These types of seizures can be occurred in group and produce temporary loss of the consciousness.
 - ii) **Tonic seizures:** In tonic seizure the muscles of patient get rigid. In these seizures commonly affected part is legs, arms and back. Due to muscle rigidity the patient can fall on the ground.
 - iii) **Atonic seizures:** It is likely also called drop seizures. In atonic seizures loss of muscle control is occurred, which may cause patient to fall down collapse.
 - iv) **Clonic seizures:** In the clonic seizures continues shaking (jerking) of muscle movement is occurred. clonic seizures mostly affect the neck region, arms and face of patient.
 - v) **Myoclonic seizures:** This type of seizures normally occurs as quick, sharp jerks or twitching of legs and arms of patient.
 - vi) **Tonic-clonic seizures:** This seizure is also known as grand mal seizures. This type of seizure is mostly occurred suddenly and cause instant loss of awareness, rigidity, shaking, tongue biting and also loss control over bladder.

Symptoms of Epilepsy:

Generalized seizures: Generalized seizures are occurred in all area of brain.

- Patient may produce sound and cry, rigidity, continues shaking of legs and arms.
- Improper breathing.
- Patient is come to consciousness in slow and sometimes after few minutes again seizure is occurred.
- Not control on the urine
- Eyes are opened

Partial seizures: it is generally occurred in only one part of the brain.

- Unusual movement of eye and head
- Numbness
- Abdominal pain
- Lips smacking, chewing, staring
- Flushed face
- Dilated pupil

- Excessive sweetening

Absence seizures: mostly absence seizures are occurred in children.

- Staring at the one place blankly.
- Sometimes continues blinking of eyes
- Seizures occurs for short period (only for few seconds)

Table 2: Herbal drugs for epilepsy: [14-19]

Plant name	Botanical name	Family	Part use
Brahmi	<i>Bocopa monneria</i>	<i>Scrophulariaceae</i>	Whole plant
Princess vine	<i>Cissus Sicyoides</i>	<i>Vitaceae</i>	Areal part
Rose	<i>Rosa Domescana:</i>	<i>Rosaceae</i>	Flower
Yasthimadhu	<i>Glycerrhiza Glabra</i>	<i>Fabaceae</i>	Root
Tulsi	<i>Oscimum Sanctum</i>	<i>Lamiaceae</i>	Leaves
Karanj	<i>Pongamia Pinnata</i>	<i>Papilionaceae</i>	Leaves
Daruhaldi	<i>Berberis Vulgeris</i>	<i>Berberidaceae</i>	Roots
Punarnava	<i>Boerhaavia Diffusa</i>	<i>Nyctaginaceae</i>	Roots
Plash	<i>Butea monosperma</i>	<i>Fabaceae</i>	Flower
Tagar	<i>Valeriana Officinalis</i>	<i>Valerianaceae</i>	Roots
Kushtha	<i>Saussurea Lappa</i>	<i>Asteraceae</i>	Roots
Lemongrass	<i>Cymbopogon Winterianus</i>	<i>Poaceae</i>	Leaves
English yew	<i>Taxus wallichiana</i>	<i>Taxaceae</i>	Extract
Jatamansi	<i>Nardostachys Jatamansi:</i>	<i>Valerianaceae</i>	Root
Dorstania	<i>Dorstenia Arifolia</i>	<i>Moraceae</i>	Rhizome
Blue skullcap	<i>Scutellaria Lateriflora</i>	<i>Lamiaceae</i>	Arial part
Aavartaki/ tarwar	<i>Sutherlandia Frutescens</i>	<i>Fabaceae</i>	Shoot

Red feathers	<i>Echium Amoenum</i>	<i>Boraginaceae</i>	Flowers
Bhantaka	<i>Clerodendrum Infortunatum</i>	<i>Verbenaceae</i>	Leaves
Vridharu	<i>Argyreia Speciosa</i>	<i>Convolvulaceae</i>	Leaves
Mukhjali	<i>Drosera Burmannii</i>	<i>Droseraceae</i>	Whole plant
Vidari	<i>Passion flower</i>	<i>Passifloraceae</i>	Leaves and flower
Amarkosh	<i>Acanthus montanus</i>	<i>Acanthaceae</i>	Leaves
Chamomile	<i>Matricaria recutita</i>	<i>Asteraceae</i>	Flowers
Kava	<i>Piper methysticum</i>	<i>Piperaceae</i>	Root
Mishreya	<i>Foeniculum vulgare</i>	<i>Umbelliferae</i>	Fruit
Hyssop	<i>Hyssopus officinalis</i>	<i>Lamiaceae</i>	Leaves
Southern blue gum	<i>Eucalyptus globules</i>	<i>Myrtaceae</i>	Leaves
Sage	<i>Salvia officinalis</i>	<i>Lamiaceae</i>	Leaves
Savin	<i>Juniperus Sabina</i>	<i>Juniperus Sabina</i>	Leaves
Ashwagandha	<i>Withenia somnifera</i>	<i>Solanaceae</i>	Bark
Ashwatha	<i>Ficus religiosa</i>	<i>Moraceae</i>	Bark
Cannabis	<i>Cannabis sativa</i>	<i>Cannabinaceae</i>	Leaves, fruit
Lehsun	<i>Alium sativum</i>	<i>Amaryllidaceae</i>	bulb
Pyaaaj	<i>Alium cepa</i>	<i>Amaryllidaceae</i>	bulb
Adaraka	<i>Zingiber officinale</i>	<i>Zingiberaceae</i>	Rhizome

3. Parkinson's disease

Parkinson's disease is a neurodegenerative disorders which is occurred due degeneration of neurons in brain. This this disease the dopaminergic neurons get damaged. Due to lack of dopamine in brain Parkinson's disease is occurred. Dopamine is help in the smooth contractions of the muscles in human body. In this disease the symptoms are slowly developed. Due to lack of dopamine in brain person cannot perform their functions properly and these kinds of symptoms occurred like tremor, rigidity, akinesia (loss of movement), and postural instability. The symptoms may be changed in persons to person due different stages of disease.in these disease herbal medicines are usually used to treat it [20].

Parkinson's disease is occurred when the dopaminergic neurons get damaged. The amount of dopamine is decreased in the brain. Parkinson's is a neurogenerative disorder. Due to decrease in the level of dopamine, these symptoms may be seen in patients like tremor, rigidity loss of movements, postural instability [21].

Different stages of Parkinson's disease: [20-21,22]

Stage one:

In this stage, people having very less symptoms. People having the symptoms which only occur one side of the body part. Others peoples may be noticing their facial expression, walking behavior and posture. But in general, does not cause any problem with daily works.

Stage two:

In these symptoms of disease becoming more chronic and the movement symptoms and rigidity damage the all body part.in this stage poor posture and difficulty in movement of body part is visible. People can do their work alone but with time it becomes difficult to complete their tasks and take much more time.

Stage three:

In this stage conditions of the people becoming very worst. They cannot do any work without any others persons help like eating and dressing. This stage is also called as mid stage in the development of the disease.

Stage four:

In this stage of Parkinson's disease are more chronic and restricted. The patient can stand without any persons help but cannot move without the help. The patient cannot leave alone they required others persons for doing their daily work.

Stage five:

In this stage the Parkinson's disease gets worst. Persons cannot do their daily work always required a nurse for doing their work. Due to stiffness in legs it is impossible to walk and stand. Person required wheelchair. In this stage motor symptoms and non-motor symptoms are occurred.

Table 3: Herbal medicines for Parkinson's disease: [23-28]

Plant name	Botanical name	Family	Part use
Siberian Ginseng	<i>Acanthopanax senticosus</i>	<i>Araliaceae</i>	Root, stem
Alpinia	<i>Alpinia oxyphylla</i>	<i>Zingiberaceae</i>	Fruit
Catuaba	<i>Anemopaegma mirandum</i>	<i>Bignoniaceae</i>	Bark
Kapikacchu	<i>Mucuna pruriens</i>	<i>Fabaceae</i>	Fruits hairs
Ashwagandha	<i>Withania somnifera</i>	<i>Solanaceae</i>	Bark
Draksha	<i>Vitis vinifera</i>	<i>Vitaceae</i>	Fruit
Mandookparni	<i>Centella asiatica</i>	<i>Apiaceae</i>	Whole plant
Tagar	<i>Valeriana officinalis</i>	<i>Valerianaceae</i>	Root

Brahmi	<i>Bacopa monnieri</i>	<i>Sacrophulaliaceae</i>	Whole plant
Astragalus	<i>Astragalus membranaceus</i>	<i>Leguminosae</i>	Root
Tulsi	<i>Ocimum sanctum</i>	<i>Lamiaceae</i>	Leaves
Senna	<i>Cassia obtusifolia</i>	<i>Leguminosae</i>	Leaves
Caha	<i>Camellia sinensis</i>	<i>Theaceae</i>	Leaves
Rason	<i>Ginkgo biloba</i>	<i>Ginkgoaceae</i>	Bulb
Choli phuliya	<i>Hypericum perforatum</i>	<i>Guttiferae</i>	Arial roots
Szechuan lovage	<i>Ligusticum chuanxiong Hort</i>	<i>Umbelliferae</i>	Root
Bala	<i>Sida cordifolia</i>	<i>Malvaceae</i>	Seed, roots
Chitraka	<i>Plumbago scandens</i>	<i>Plumbaginacea</i>	Leaves, roots
Shahtoot	<i>Morus alba</i>	<i>Moraceae</i>	Fruit
Khadir	<i>Uncaria rhynchophylla</i>	<i>Rubiaceae</i>	Root, bark
Rungla	<i>Toxicodendron vernicifluum</i>	<i>Anacardiaceae</i>	Seed, leaves
Red clover/ wild clover	<i>Trifolium pretense</i>	<i>Fabaceae</i>	Flower tops
Skullcap	<i>Scutellaria baicalensis Georgi</i>	<i>Labiatae</i>	Dried root
Bakuchi	<i>Psoralea corylifolia</i>	<i>Leguminosae</i>	Seeds
Chrysanthemum	<i>Chrysanthemum indicum</i>	<i>Asteraceae</i>	Flower
Rou cong rong	<i>Cistanche deserticola</i>	<i>Orobanchaceae</i>	Stem
Mandarin	<i>Citrus tangerine</i>	<i>Rutaceae</i>	Fruits
Wampee	<i>Clausena lansium</i>	<i>Rutaceae</i>	Fruits
Bermuda grass	<i>Cynodon dactylon</i>	<i>Poaceae</i>	Whole plant, root, rhizome
Vishnukrantha	<i>Evolvulus alsinoides</i>	<i>Convolvulaceae</i>	Whole plant
Sweet tea vine	<i>Gynostemma pentaphyllum</i>	<i>Cucurbitaceae</i>	Roots, areal parts
Kadi patta, sweet neem	<i>Murraya koenigii</i>	<i>Rutaceae</i>	Leaves, bark, roots

Jatamansi	<i>Nardostachys jatamansi</i>	<i>Valirenceae</i>	Rhizome
Garden peony	<i>Paeonia lactiflora</i>	<i>Ranunculaceae</i>	Roots, flowers
Blueberries	<i>Vaccinium Cyanococcus</i>	<i>Ericaceae</i>	Leaves, fruits
Expand	<i>Selaginella delicatula</i>	<i>Selaginellaceae</i>	Whole plant
Sanjivani	<i>Polygala sibirica</i>	<i>Polygalaceae</i>	Leaves, roots
Sarpakshee	<i>Polygonum cuspidatum</i>	<i>Polygonaceae</i>	Roots
Bhukushmandi	<i>Pueraria lobata</i>	<i>Leguminosae</i>	Root, leaves, flower

4. Alzheimer disease

Alzheimer disease is the common mental disorders occurs commonly in old age persons. This disease is occurred due to degeneration of neurons in brain. The cells of brains get damaged. Alzheimer disease is also taken as the main cause of dementia in old age persons. Main symptoms of Alzheimer disease are person is emotionally disturbed and they are not able to manage with family routine. In Alzheimer disease the thinking skills and memory is destroyed, person cannot do any simple task. This disease is irreversible, with the age it can be worsen then. For the treatment of Alzheimer disease many herbal drugs are used because herbal medicines are much safer than modern medicines and also having the fewer side effects [26-28].

Alzheimer disease is a neurogenerative disorders in which the cells of brain or neurons get damaged. In this disease the amount of acetylcholine is decreased in the brain. Due to lack of acetylcholine memory loss and thinking skills get decreased. Person is unable to remember the recently events. The person is always confused and cannot do any simple task. This disease is always occurred in old age.

Symptoms of Alzheimer:

- The always do the repeated questions and conversion
- Misplaced their personal things
- Cannot remember the appointments and parties
- They not friendly with their family
- Persons having the lack of understand the things and safety risk will be more
- They are not able to manage their finances
- Decision making for person is very difficult
- They are unable to think technically

- They don't have ability to recognize the face and the common things
- They having the disability to speaking and learning the things
- Difficulty thinking of common words while speaking, hesitations

Factors for causing of Alzheimer's disease:

For the development of Alzheimer disease these risk factors can be include:

- Age
- Family background with Alzheimer disease
- Having the certain genes which cause Alzheimer disease

These factors may help in preventing the disease:

- With regular exercise
- With healthy cardiovascular system

Different stages of Alzheimer's disease:

Alzheimer disease is divided into these three stages:

- A. Early stage or mild stage
- B. Middle stage or moderate stage
- C. Late stage or severe stage

Mild stage:

In this stage mild symptoms are occurred persons can do their functions independently. The problems are seen by the others persons like family and friends. They have the problems with remembering the things.

Moderate stage:

This stage is longer than the mild stage and occurred for years. In this stage the symptoms of dementia are prominent. Taking care of the person required more because they having difficulty to do their routine work.

Severe stage:

Person having the loss of memory and they are not able to remembers their address. In this stage the dementia is at severe. This stage is also known as late stage.

Table 4: Herbal medicines used in Alzheimer disease: [26-28, 30-32]

Plant name	Botanical name	Family	Part use
Sage	<i>Salvia officinalis</i>	<i>Lamiaceae</i>	Leaves
Lemon balm	<i>Melissa officinalis</i>	<i>Lamiacea</i>	Leaves
Ginkgo	<i>Ginkgo biloba</i>	<i>Ginkgoaceae</i>	Leaf

Senega	<i>Polygala tenuifolia</i>	<i>Polygalaceae</i>	Root
Fish hook vine	<i>Uncaria rhynchophylla</i>	<i>Rubiaceae</i>	Stem, thorn
Toothed clubmoss	<i>Huperzia serrate</i>	<i>Lycopodiaceae</i>	Leaf
Green snowdrop	<i>Galanthus woronowii</i>	<i>Amaryllidaceae</i>	Bulbs
Haldi	<i>Curcuma longa</i>	<i>Zingiberaceae</i>	Rhizome
Draksha	<i>Vitis vinifera</i>	<i>Vitaceae</i>	Fruit
Red spider lily	<i>Lycoris radiate</i>	<i>Amaryllidaceae</i>	Bulb
Surprise lily	<i>Lycoris squamigeric</i>	<i>Amaryllidaceae</i>	Roots
Calabar bean	<i>Physostigma venenosum</i>	<i>Leguminosae</i>	Seed
Brahmi	<i>Bacopa monniera</i>	<i>Scrophulariaceae</i>	Whole plant
Ashwagandha	<i>Withania somnifera</i>	<i>Solanaceae</i>	Bark
Mandookparni	<i>Centella asiatica</i>	<i>Umbelliferae</i>	Whole plant
Ginseng	<i>Panaxi ginseng</i>	<i>Araliaceae</i>	Root

CONCLUSIONS

Traditional medicines are found to be very beneficial for the treatment of neurological disorders like migraine, epilepsy, Parkinson's and Alzheimer. Many peoples are used herbal medicines for the treatment and alternative health care. All the neurological disorders are dangerous because nervous system is a system that controls all the function of body. If any problem is occurring in brain it harms all the function of whole body. Herbal medicines also cause side effects but lesser then the other medicines. In the neurological disorders mostly, those herbal plants are used which having the good therapeutic effect on brain like brahmi, jatamansi, mandookparni, Ashwagandha, haldi, ginseng, bakuchi etc.

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