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Herbs Used For Behaviour Modifying Activity.

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ABSTRACT

Herbs have been highly valued and used regularly for thousands of years by the peoples of the world as the medicine of the masses. Man has always searched for that herb that heals the body and soothes the mind and nature is a rich source of biological and chemical diversity and a number of plants in the world have been used in traditional medicine remedies for various diseases. This work constitutes a literature review on medicinal plants showing behavior modifying properties such as anxiety, depression, seizures, poor memory, dementia, insomnia even though these herbs may have many other therapeutic effects. The review has been compiled using references from major databases like Chemical Abstracts, Medicinal and Aromatic Plants Abstracts, PubMed, Scirus, Google scholar, Open J Gate, Scopus, Science Direct and Online Journals.

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INTRODUCTION

The word herb, as used in herbal medicine, also known as botanical medicine or, in Europe, as Phytotherapy or Phytomedicine means a plant or plant part that is used to make medicine to assist the healing process during illness and disease. An herb can be a leaf, a stem, a root, a seed, a fruit, a flower, or bark, used for its medicinal properties. These may be used in many forms, e.g. fresh, dried, cut, as a powder, ointment, tincture, or oil extract, or made into liquid by infusion or decoction. Herbal medicines are being used by about 80% of the world population primarily in the developing countries for primary health care. They have stood the test of time for their safety, efficacy, cultural acceptability and lesser side effects [1].

The three main categories of herbs are:

The "food herbs" are gentle in action, have very low toxicity, and are unlikely to cause an adverse response. Examples include Lemon Balm, Peppermint, Marshmallow, Ginger, Garlic, Chamomile, Hawthorn, Rose hips, Nettles, Dandelion Root and Leaf, and fresh Oat extract.

The second category is the "medicine herbs". These herbs are stronger acting - they need to be used with greater knowledge (dosage and rationale for use) for specific conditions (with a medical diagnosis) and usually for a limited period of time. Examples include Andrographis, Blue Cohosh, Cascara Sagrada, Celandine, Ephedra, Goldenseal, Jamaica Dogwood, Oregon Grape Root, Senna, and Uva-Ursi.

The last category is the "poison herbs". These herbs have strong potential for either acute or chronic toxicity and should only be utilized by clinicians who are trained to use them and clearly understand their toxicology and appropriate use. According to world health report, about 450 million people suffer from a mental or behavioural disorder [3]. This amounts to 12.3% of the global burden of disease, and predicted to rise up to 15% by 2020 [4]. Plants are rich in a variety of compounds that may account for the variety of the claimed medical uses, in this article, I will only refer to claims for psychotropic or behavior modifying conditions such as anxiety, depression, seizures, poor memory, dementia, insomnia [5] even though these herbs may have many other therapeutic effects.

Anxiety disorders are very common mental health problems in the general population and in primary care settings,[6] it is a normal human emotion that everyone experiences at times. Many people feel anxious, or nervous, when faced with a problem at work, before taking a test, or making an important decision. Anxiety disorders, however, are different. They can cause such distress that it interferes with a person's ability to lead a normal life.

Depression can be described as a mood, a state of being or energy level that includes lack of motivation, a sense of hopelessness and a lack of physical energy. It is an emotional status that can result from many aspects of our life. It is often a disabling disease that affects a person's work, family, school life, sleeping and eating habits, general health, and ability to enjoy life. A state of constant depression may suggest persistent stress or a

biochemical imbalance [7]. According to the American Psychiatric Association, approximately 10-25% of women and 5-12% of men will suffer from depression at some point in their lives.

A seizure is the physical findings or changes in behavior that occur after an episode of abnormal electrical activity in the brain. Seizures can vary widely in their clinical presentation, depending on site, extent and mode of propagation of the paroxysmal discharge and hence now looked at as spectrum of clinically different varieties rather than a single disease [8]. The term "seizure" is often used interchangeably with "convulsion." Convulsions are when a person's body shakes rapidly and uncontrollably. During convulsions, the person's muscles contract and relax repeatedly.

Memory is the ability of an individual to record sensory stimuli, events, information, etc., retain them over short or long periods of time and recall the same at a later date when needed. Poor Memory, lower retention and slow recall and are common problems in today's stressful and competitive world. Age, stress, emotions are conditions that may led to memory loss [9]. Memory loss affects most people in one way or another. Dementia is syndrome or set of symptoms and signs occur at the same time is due to a disease in the brain. It is progressive impairment of memory, thinking, and orientation, learning capacity, language and judgments. Changes in cognition occurs deterioration in the person's emotional control, social behaviours or motivation [10].

Insomnia is a sleep disorder that is characterized by difficulty in falling and/or staying asleep. People with insomnia have one or more of the symptoms like: difficulty falling asleep, waking up often during the night and having trouble going back to sleep, waking up too early in the morning, feeling tired upon waking. An estimated one third of the adult population presents insomnia symptoms at least occasionally, about 15% are dissatisfied with their sleep, and between 6% and 10% meet criteria for an insomnia syndrome [11-12].

Table 1: List Of Medicinal Plants Used For Behaviour Modifying Activity

<i>Plant Name</i>	<i>Part Used</i>	<i>Family</i>	<i>Extract Used</i>	<i>Activity</i>	<i>Reference</i>
<i>Crocus sativus</i>	<i>Stigma, petal, corms</i>	<i>Iridaceae</i>	<i>Aqueous, ethanolic</i>	<i>Antidepressant, Anxiolytic</i>	<i>13,14,15,16</i>
<i>Rhodiola rosea</i>	<i>Roots</i>	<i>Crassulaceae</i>	<i>Alcohol aqueous extract</i>	<i>Antidepressant, Insomnia, Learning, memory</i>	<i>17,18</i>
<i>Hypericum perforatum</i>	<i>Leaves, Flowering Buds</i>	<i>Clusiaceae</i>	<i>Alcohol</i>	<i>Antidepressant, Anxiolytic, Sedative, Nootropic, Anticonvulsant,</i>	<i>19,20</i>
<i>Albizzia lebeck</i>	<i>Leaves</i>	<i>Fabaceae</i>	<i>Ethanolic</i>	<i>Anticonvulsant</i>	<i>21</i>
<i>Lavandula stoechas</i>	<i>Flowers</i>	<i>Labiatae</i>	<i>Aqueous, Methanolic</i>	<i>Anticonvulsant</i>	<i>22</i>
<i>Pimpinella anisum</i>	<i>Fruits</i>	<i>Apiaceae</i>	<i>Ethanolic extract</i>	<i>Anticonvulsant</i>	<i>23</i>
<i>Delphinium denudatum</i>	<i>Dried roots</i>	<i>Ranunculaceae</i>	<i>Ethanolic</i>	<i>Anticonvulsant</i>	<i>24</i>
<i>Passiflora incarnata</i>	<i>aerial parts</i>	<i>Passifloraceae</i>	<i>Methanol</i>	<i>Insomnia, Anxiolytic</i>	<i>25,26</i>
<i>Valeriana officinalis</i>	<i>Roots</i>	<i>Valerianaceae</i>	<i>Aqueous</i>	<i>Anxiolytic, Insomnia</i>	<i>27,28,29</i>
<i>IllexParaguariensis</i>	<i>Leaves</i>	<i>Aquifoliaceae</i>	<i>Hydroalcoholic</i>	<i>Dementia</i>	<i>30</i>

<i>Glycyrrhiza Glabra</i>	Roots, rhizomes	Leguminosae	Ethanolic	Dementia,AnxiolyticAnticonvulsant, Learning, Memory	31,32,3334
<i>Lipidium Meyenii</i>	Black Maca (Whole plant)	Brassicaceae	Aqueous and hydroalcoholic	Dementia	35
<i>Ginkgo biloba</i>	leaves	Ginkgoaceae	Aqueous and ethyl acetate	Anxiolytic, Dementia	36,37,38
<i>Piper methysticum</i>	Root	Piperaceae	Chloroform	Anxiolytic	39,40
<i>Punica granatum</i>	Seeds	Punicaceae	Ethanolic	Antidepressant,Anxiolytic	41
<i>Albizzia julibrissin</i>	bark	Fabaceae	Aqueous	Antidepressant	42
<i>Leuzea carthamoides</i>	Seeds	Asteraceae	Ethanol	Anxiolytic	43
<i>Bacopa monnieri</i>	Whole plant	Scrophulariaceae	Alcoholic	Memory enhancer	44
<i>Teminalia chebula</i>	Ripe fruit	Combrataceae	Methanolic	Memory enhancer	45
<i>Commiphora whighitti</i>	plant resin	Burseraceae	Ethenolic	Dementia	46
<i>Zingiber Officinale</i>	Rhizomes	Zingiberaccae	Ethanolic	memory enhancer	47
<i>Salvia Lavandulaefolia</i>	flowering tops	Laminaceae	Ethanolic extracts	Dementia, Antidepressant	48
<i>Adenanthera parvonina</i>	Seeds	Leguminsae	Methanolic	Anticonvulsant Antidepressant	49
<i>Ficus religiosa</i>	Bark	Moraceae	Methanolic	Anticonvulsant Anti-amnesic	50,51
<i>Cynodon dactylon</i>	whole plants with roots	Poaceae	Ethanolic	Anticonvulsant	52
<i>Apium graveolans</i>	Seed	Apiaceae	Alkaloidal fraction, essential oil	Anticonvulsant	53
<i>Ptychopetalum olacoides</i>	Roots	Olacaceae	Ethanolic	anti-amnesic	54
<i>Cannabis indica</i>	Flowering tops	Cannabaceae	Petroleum ether	Anticonvulsant	55
<i>Eclipta prostrate</i>	leaves	Asteraceae	butanol fraction	Dementia, memory enhancer	56
<i>Panax Ginseng</i>	Roots	Araliaceae	Saponins	Dementia	57
<i>Leonotisleonurus</i>	Leaf	Lamiaceae	Aqueous	Anticonvulsant	58
<i>Evolvulus alsinoides</i>	whole herb	Convolvulaceae	Ethanol	Improve memory	59
<i>Scutellariae radix</i>	Dried root	Lamiaceae	Aqueous	Anticonvulsant	60
<i>Centella Asiatica</i>	Leaves, roots	Mackinlayoideae	Methanolic and ethyl acetate Extracts	Dementia. Improve memory,Anxiolytic	61
<i>Alstonia boonei</i>	Leaves	Apocynaceae	Ethanolic	Antidepressant, Anti-anxiety	62
<i>Anacardium occidentale</i>	leaves stem	Anacardiaceae	Ethanolic,acetone and ethyl acetate	Antidepressant	62
<i>Guerra senegalensis</i>	Roots, leaves	Combretaceae	Aqueous	Antidepressant	62
<i>Khaya senegalensis</i>	Seeds	Meliaceae	Petroleum ether	Antidepressant	62

<i>Nymphaea lotus</i>	Flowers	<i>Nymphaeaceae</i>	Ethenolic	Antidepressant	62
<i>Passiflora foetida</i>	whole herb	<i>Passifloraceae</i>	Ethanolic	Antidepressant	62
<i>Waltheria indica</i>	Aerial part	<i>Sterculiaceae</i>	Ethenolic	Antidepressant, Anticonvulsant	62
<i>Cucurbita pepo</i>	seeds pulp	<i>Cucurbitaceae</i>	Aqueous, alcoholic	Antidepressant	63

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