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Review Article

C.N.S. Protective Drugs: An Overview

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Abstract: Although regulatory authorities presently authorize extremely few drugs for dealing with multifactorial conditions and conditions of cognition such as Alzheimer's, specific plant-derived agents, consisting of, for instance, galantamine and rivastigmine (a semi-synthetic derivative of physostigmine) finding an application in contemporary medicine. However, in Ayurveda, the Indian traditional system of medicine which is more than 5000 years of ages, selected plants have long been categorized as 'Medhyarasayanas,' from the Sanskrit words 'Medhya,' indicating intellect or cognition, and 'Rasayana,' implying 'rejuvenation.' These plants are utilized both in natural and traditional medicine and offer advantages that pharmaceutical drugs do not have. The article is an attempt to examine the most critical medical plants, consisting of Vacha (Acorus calamus), Ashwagandha (Withania somnifera), Vidhara (Argyreia Nervosa), Shankhapushpi (Convolvulus prostratus), Shatavari (Asparagus racemosus), Mandukaparni (Centella Asiatica), Brahmi (Bacopa monnieri), Jyotishmati (Celastrus paniculatus) which are extensively used for their reputed effectiveness in C.N.S. conditions. This paper's main aim is to explore C.N.S. Protective drugs or Medhya Rasayana mentioned in Ayurvedic classical textbooks concerning modern science mode of actions and to study the mechanism of the C.N.S. protective drugs. The source for this study is collected from classical Ayurvedic books and commentaries, modern medical science textbooks, and different articles from Pubmed, D.H.A.R.A., Google Scholar, etc. Various Medhya Rasayana mentioned in Ayurvedic texts have potent qualities to enhance memory and relieve medical illnesses related to C.N.S., whether it is related to mental or sensory problems. So, various safe and natural remedies are available in Ayurveda; long-term or short-term mental health can be recovered without any life-threatening complication.

Keywords: Medicinal Plants; Alzheimer's Disease; Anxiety; Stress and Anxiety; Stress; CNS Disorders, Medhya Rasayana

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1. INTRODUCTION

Herbal medicine offers many options for modifying the progression and symptoms of C.N.S. disorders. There is a new trend in the manufacturing and marketing of herbal medicines, and their scientific and commercial importance in health care is increasing daily. Products derived from this plant are carefully standardized, and their effectiveness and safety in a specific use are proven[1]. *Ayurvedic* medicine is a traditional system of medicine that originated in India, and *Ayurvedic* doctors have developed many medicines and surgical procedures to treat various ailments. The collection of literature is dedicated to *Ayurvedic* texts about the nervous system and related disorders. In *Sanskrit*, diseases of the nervous system, watt, biological humor, and moving energy through the brain and nerves (assuming air or air moving in the body) control voluntary and unwanted functions.

For this reason, *Vata Dosha's* defects always include weakness, disorder, or sensitivity to the nervous system. These texts include age-related memory loss, prevention, and therapeutic interventions. The literature describes the use of many herbs, their properties, and their effectiveness in disorders of the nervous system, including memory loss in the elderly, but only recently have there been mechanistic studies on these herbs' role in nervous diseases system and dementia—conducted dementia associated with C.N.S. disorders[2]. Many scientific studies describe the use of various *Ayurvedic* herbs called "nerves" and their compounds to improve the functional activity of the nervous system and restore memory[3]. Phytochemical studies have shown the presence of many valuable compounds, such as lignans. Flavonoids, tannins, polyphenols, triterpenes, sterols, and alkaloids have a broad spectrum—of pharmacological measures, including anti-inflammatory, anti-amyloidogenic, anticholinesterase, hypolipidemic, and antioxidant effects[4]. In severe cases, patients lose their ability to act, and their memory and sense of time and place are lost. As a result, patients are completely dependent on others and ultimately require intensive care. The patient's dependence on others involves placement in a nursing home with complete respect. A therapeutic intervention that can delay the onset or progression of C.N.S. disorders is expected to dramatically reduce the number of cases over the next 50 years[5]. The current study of the research of various medical plants from *Ayurveda*, which promises to change advertising, is combined. These plants briefly relate to Fit's chemical, biological and cellular activity and medical applications to provide sufficient information for innovative drug campaigns. Below we describe the types of *Ayurvedic* nerve herbs and their effects on the brain that are recommended for C.N.S. disorders. This paper's main aim is to explore C.N.S. Protective drugs or *Medhya Rasayana* mentioned in *Ayurvedic* classical textbooks about modern science mode of actions and to study the mechanism of the C.N.S. protective drugs.

1.1 Vacha

Vacha (Acorus calamus) belongs to the household Acoraceae; it is a high-value medical plant that grows almost all over India. It is a semi-evergreen seasonal herb with arching tapered reed-like leaves, minute yellow-green flowers, and fragrant rhizomes. Medicinal use has been reported in traditional systems of medicine, such as Ayurveda, where the rhizome of *Vacha* is extensively utilized to treat various ailments such as epilepsy, headache, slurred speech, eye disorder, sleeping disorders, loss of memory, etc. Its healing usages are reported to be described in *Ayurvedic* books like *Charak Samhita, Sushruta Samhita*, and so on. Research studies reveal that *Vacha* roots contain a vital aromatic oil with considerable anticonvulsant activity. *Vacha* roots are adequate to deal with amnesia, Alzheimer's illness, tremors, Stress and anxiety, depression, and pain conditions of neurological origin. It consists of different chemical constituents; the significant component of oil of *Vacha* is a phenylpropanoid called β-asarone, have carcinogenic residential or commercial properties, and for that reason, the Ayurvedic system makes use of *short* (cleansed) *Vacha* in its solutions. *Vacha,* or Sugary food flag, is a semi-aquatic, perennial, aromatic herb of aquatic habitats in temperate to sub-temperate areas. Today's work briefly recorded the phytochemistry, homes, and *Shodhana* of *Vacha*[6].

1.2 Concept of *Rasayana*

Rasayana drugs are those that diminish aging and diseases[7]. *Rasayana* is nutritional transportation in the body. It refers to the acquisition, movement, or circulation of nutrition to nourish the body and enrich tissue perfusion. The procedure which imports a special type of *rasa di dhatus (prashasta dhatu)* in the body or how an individual gets the excellence of rasa di *dhatus* is known as *Rasayana*. Commenting on this, *Chakrapani* quotes that apart from *prashasta dhatu utpatti*, it is also responsible for *Smriti*. *Dalhana* describes it as one which *stabilizes* youthfulness and prolongs life with activities through its *Rasa, Vipaka, Virya*, and *Prabhava*[8].

1.3 Medhya Rasayana

The term *Medhya* is defined as beneficial to *Medha*[9]. Medhya Rasayanas are a group of medicinal plants described in Ayurveda as having multiple benefits, especially *Prabhava* (specific action). It Enhances memory and intelligence through *Medha* means intelligence and retention, and *Rasayana* means therapeutic procedure or preparation. Regular use promotes nutrition, health, memory, intelligence, immunity, and longevity. *Medhya Rasayana* found in *Samhitas* Descriptions of *Rasayana* show the specific use of these types of *Rasayana* apart from the common *Rasayana*. In *Charak Samhita*, *Medhya Rasayana* is not directly mentioned as a separate species. Four drugs, *Mandukaparni* (Centella asiatica Linn.), *Yastimadhu* (Glycyrrhiza glabra Linn.), *Guduchi* (Tinospora cordifolia (Wild) Miers), and *Shankhapushpi* (Convolvulus pleuricaulis Chois), are mentioned with particular mention for their wide range of uses[10] among these, *Shankapushpi* (Convolvulus pleuricaulis Chois) is considered his *Medhya Vishesh*.

1.4 Ashwagandha

Ashwagandha (Withaniasomnifera), a known conventional medication utilized in the *Ayurveda* system of medicine, belongs to India. Poor quality sleep constantly looked like a severe complaint as it interfered with sleep. The natural phytoconstituents present in the *Ashwagandha* are thought to be an adaptogen that assists the body to adapt tension by normalizing or remedying it through stabilizing immune and neuroendocrine systems. However, the mechanism that boosts sleep quality in the presence of *Ashwagandha* is still unknown. Based upon all readily available research studies, we investigated the results of the hydroalcoholic extract of *Ashwagandha* on various bands of the electroencephalogram (E.E.G.) to determine its function in behavior and sleep in rats. Sleep is recorded as crucial to public health, and shortage in

quality and duration of sleep is responsible for listening efficiency and health of the topic[11]. Neurodegenerative diseases commonly cause irreparable destruction of central nervous system (C.N.S.) neuronal networks, leading to permanent practical problems. Reliable medications against neurodegenerative illness are currently lacking. *Ashwagandha* (roots of Withania somnifera Dunal) is utilized in standard Indian medicine (Ayurveda) for general debility, consumption, nervous exhaustion, sleeping disorders, and memory loss. This review summarizes various effects and systems of *Ashwagandha* extracts and associated compounds on in vitro and in vivo models of neurodegenerative illnesses such as Alzheimer's disease and spine injury[12]. *Ashwagandha* helps increase acetylcholinesterase (AChE) levels in the brain cells. Pain is an essential brain neurotransmitter related to memory and cognition. Usually, advertisement decreases pain levels, hindering cognition and memory. For that reason, many treatments in promotions try to increase the AChE level in the body. Significantly, *Ashwagandha* and *Brahmi* are better AChE boosters than most conventional medications.
Additionally, *Ashwagandha* increases a patient's energy level, boosting the production of nerve and brain cells. Benefits of Integrating *Brahmi* and *Ashwagandha*: By themselves, each herbal medication can help fight Alzheimer's. A mix of the two likewise supplies a client with the memory-increasing capability of *Ashwagandha* and Brahmi's memory and cognition-improving ability. In addition, the energy-improving quality of *Ashwagandha* helps increase the immune level of a client and leads to the quick generation of new neurons and brain cells[13].

1.5 Vidhara

Numerous natural remedies have been used in various medical systems to treat and manage different diseases. The plant, ArgyreiaspeciosaLinn.f. (Syn: Argyreia nervosa) It comes from household Convolvulaceae, which has been used in other standard medication systems for treating illnesses and ailments of human beings. It consists of numerous alkaloids, glycosides, flavonoid glycosides, and steroids. In addition, it has been reported as a nootropic, anticonvulsant, central nervous system, aphrodisiac, immunomodulatory, analgesic, and anti-inflammatory activity. Unfortunately, many constituents separated from A. speciosa lack the reports of pharmacological activities, which support its additional medicinal research studies[14].

1.6 Shankhapushpi

A well-known drug in Ayurveda is thoroughly utilized for various primary nerve system (C.N.S.) results, particularly memory improvement. Various plants are used under *Shankhpushpi* in different areas of India, resulting in uncertainty regarding its trustworthy source. Plants frequently used under the name *Shankhpushpi* are Convolvulus pluricaulis Chois. Evolvulusalsinoides Linn., both from Convolvulaceae, and Clitoriaternatea Linn. (Leguminosae). It has been used traditionally for its memory-enhancing, anticonvulsant, antianxiety, and sedative properties. The plants frequently used under *Shankhpushpi* in various areas of India are Convolvulus pluricaulisChois. (Syn. Convolvulus prostratus, Convolvulus microphyllus) and Evolvulusalsinoides Linn. (Convolvulaceae) and Clitoriaternatea Linn. (Leguminosae). These plants were likewise studied and compared based on their effect on anxiety, anxiety, and spontaneous locomotor activity[15, 16]. The psychological symptoms of dementia are depicted in Fig 1.

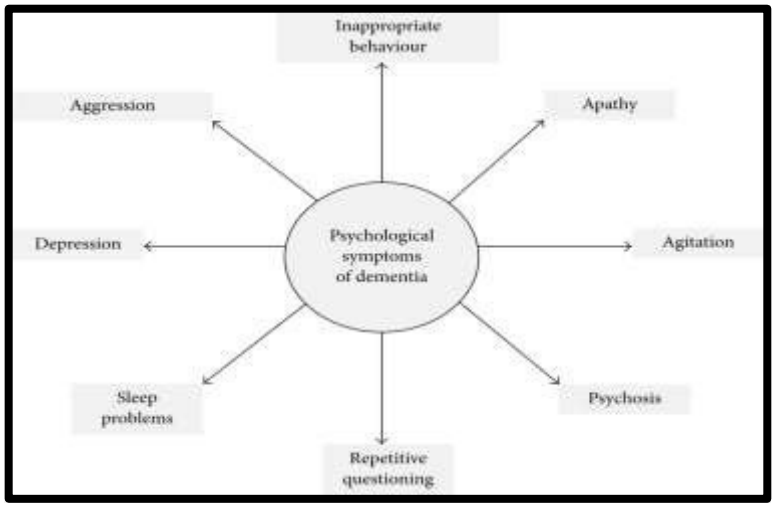

Fig 1. Showing the psychological symptoms of dementia

1.7 Shatavari

Asparagus racemosus (A.R.) is famous as an *Ayurvedic Rasayana,* typically used by *Ayurvedic* specialists for nervous disorders and to prevent aging. Our previous research study found that ethanol A.R. root extract can improve learning and memory disability caused by ovariectomy. However, the extract's mechanisms as a neuroprotective residential or commercial property are still unknown[17].

1.8 Mandukaparni

Centella Asiatica, as medicine, is a reliable remedy for various conditions and has been used for countless years worldwide. The medicinal home of C. Asiatica is becoming popular day by day worldwide. The plant is helpful for rheumatism, extra vigor, increasing brain power, decreasing blood glucose level, skin problems, increased circulation, arthritis, senility, and varicose. According to *Ayurveda*, the herb has multifunctional residential or commercial properties.

1.9 Pharmacological action

- Memory enhancement: In vivo research studies have shown that the liquid extract of the leaves of the Centella Asiatica rejuvenates the brain and nerve system, therefore, displays a considerable impact on knowing and memory procedure by increasing the level of norepinephrine, dopamine, and 5- H.T. in the brain.
- Antidepressant: The triterpenoid saponins present in the plant exhibit antidepressant activity by reducing corticosterone levels in serum[18].

1.10 Brahmi/endri

Brahmi is a natural herbal plant utilized by traditional Indian medicine men (*Ayurveda*) for many generations. The plant is useful as a treatment for many health problems. A few of the uses of the plant consist of reducing Stress and anxiety, and tension, neutralizing allergic reactions, dealing with indigestion, and enhancing a person's memory. The ability of *Brahmi* to improve and boost memory helps cope with advertisements. Research studies show that the plant can avoid or decrease the dangers of advertising if taken frequently and well beforehand. *Brahmi* can substantially alleviate the patient's cognitive performance for clients identified with promotion. The plant improves the patient's memory and increases their knowledge rate. A research study by the National Brain Proving Ground (N.B.R.C.) utilizing mice with A.D. showed that *Brahmi* decreases beta-amyloid volume in their brains. Significantly, a boost in beta-amyloid accelerates the death of brain cells, hence resulting in amnesia. *Brahmi* assists in improving the client's cognitive capability and stopping damage to the client's brain cells[19].

1.11 Brahmi in neuro-inflammation

Several factors, such as brain injuries, direct exposure to contaminants, and deposition of protein aggregates, set off the inflammatory responses in the central nervous system (C.N.S.). The microglia living in C.N.S. are the principal immune cells, which cause neuro-inflammation via numerous signaling proteins, mainly the interleukins. *Ayurveda* is a medicinal science that uses naturally readily available plant products for treatment. A wide range of neuroprotective herbs has been reported in *Ayurveda*. *Brahmi*, Bacopa monnieri, is a nootropic *Ayurvedic* herb known to be efficient in neurological conditions from ancient times. Various methods, including natural and synthetic compounds, have been used for Alzheimer's disease. Amyloid-β and Tau are the trademarks proteins of numerous neuronal dysfunctions leading to Alzheimer's illness. The neuroprotective properties of *Brahmi* and its bioactive parts include a decrease of R.O.S., neuro-inflammation, aggregation inhibition of Amyloid-β, and enhancement of cognitive and discovering behavior. Based on earlier studies, we hypothesize the repressive role of *Brahmi* versus Tau-mediated toxicity. The general studies have concluded that *Brahmi* can be utilized as a lead solution for treating Alzheimer's disease and other neurological disorders[20].

1.12 Jyotishmati

The nervous system plays an essential function in controlling, executing, and coordinating internal and external activities of the body. Due to our hectic schedule and undisciplined lifestyles, C.N.S. disorders are increasing tension and anxiety nowadays; anxieties are the common issues connected with C.N.S., and these issues are leading to severe health issues. Various medications are available for treating such diseases as we are highly advanced in the medical field, and this field is enhancing daily. However, medicines used to treat these disorders are mainly synthetic (allopathic), so various side effects are associated with these medications, including dependency, sleep disorders, etc. It's about time that treatment of these disorders amalgamations of natural approach needs likewise to be presented at this point. Plants have been used to treat these conditions in India since the ancient age (*Ayurvedic* system, Naturopathy, etc.). *Brahmi* and *Sankhpushpi* have known medications in this field, but *Jyotishmati,* also used for ages, is significantly less recognized[21].

1.13 Ahiphena

Neuropsychiatric and neurodegenerative disorders such as Alzheimer's illness, Parkinson's disease, schizophrenia, epilepsy, depression, and anxiety position a substantial global health issue, accompanying considerable problems of disorders, suicides, physical comorbidities, high financial costs, and poor quality of life. Organic medications are preferred over synthetic drug treatments as an effective remedy for many brain disorders. *Ayurveda* offers a holistic approach to treatment together with numerous nootropic herbs having multi-dimensional bioactivities in various conditions. Scattered info refers to traditional *Ayurvedic* remedial choices for various mental disorders. Present evaluation includes (i) common brain disorders and the associated changes, (ii) *Ayurvedic* holistic techniques to handle neurodegenerative and depressive conditions, and (iii) essential *Ayurvedic* single herbs and polyherbal solutions with a description of their conventional use and administration. Concomitantly, it opens for future examinations and standardization on *Ayurvedic* nootropic herbs[22].

1.14 Yashtimadhu

Yashtimadhu is Kanthya, Sandhaniya, Varnya, Kandughna, Vamanopaga, Jivniya, Asthapanopaga, Mutravirajaniya Mahakasaya by *Charak Samhita* and *Kakolyadi, Sarivadi, Brhatyadi, Ambasthadi, Anjanadi, Utpaladi Gana* of *Susurta Samhita* The main component of *Yashtimadu* is glabridin. It helps improve brain function chemically; it is a flavonoid polyphenol. Due to its neuroprotective properties, it has been shown to reduce brain damage from stroke[23]

1.15 Guduchi

Charak Samhita describes *Guduchi* under *Vayahasthapana, Dhaprashamana, Trishnanigrahan, Stanya Sodhana, Triptyguna Mahakasaya* and by *Susurta Samhita* under *Guduchadi, Alagdadi, Kakoryadi, Patradi,* and *Vali Panchamura*. Synonyms include *Madhuparni, Chinnamla, Kakurakshanika, Amrita Valli, Chinna, Amrita, Vatsadhani, Givanti, Tantrika, Kundalini, Vayastha*. Nontoxic human glioma cells[24]

1.16 Jatamansi

Acetylcholinesterase inhibitory activity of methanol followed by water Extracts of N. jatamansi (rhizome) were tested for acetylcholinesterase inhibition In vitro activity. Results showed that the methanol extract was more active than the water excerpt. The IC (50) value is N. *jatamansi* was 47.21 mg/ml. These results are N. *jatamansi i*mproves cognition in addition,

age-related memory loss due to natural aging in mice was also restored. As scopolamine-induced amnesia was reversed, the memory improvement may be due to enhanced cholinergic transmission in the brain Therefore, N *jatamansi* may prove to be a useful memory restorer in the treatment of dementia in old age. The underlying mechanism of action can be traced to its antioxidant properties[25].

1.17 Kushmanda

The fruit of Hemp is called Medya or has a nootropic effect. *Kushmanda* is the main ingredient in '*Kusmandalehyam*' and '*Kushmanda Ghrita*,' popular *Ayurvedic* medicines widely used in mental and neurological disorders. Numerous studies have explored the effects of *kushmanda Grhita* and *Kushmanda lehya* on psychiatric and neurological disorders. Kushmanda Ghrita, Medicinal ghee, processed with a paste of *Yastimadu* root (Glycyrrhiza glabra) in the juice of *kush manda,* indicated for epilepsy (*Apasmara*). It has been described as promoting clarity of voice (*Swara*), intelligence (*Dhee*), and speech (*Vaak*). (A.H.Ut.8/28) Studies show that *Kusmanda Grita* has antidepressant effects and improves depressive disorders in patients[26].

1.18 Ginkgo biloba

A GEM study was conducted to determine whether G biloba reduces the incidence of dementia, as there are no effective treatments to prevent or delay the onset of dementia. Prevent or delay the onset of age-related dementia. This study used the required standardized formulation of Gbiloba extract with the amount of active ingredient specified in the dose Based on the highest dose used and reported in the literature. The tested one is among the best characterized, and the most useful data is available, so the results apply to Other Gbiloba extracts. Based on the results, Gbiloba is not recommended in this study for prevention. The Dementia GEM Study was conducted to determine whether G-Biloba would reduce the incidence of dementia due to the lack of effective treatments to prevent or delay the onset of dementia. There have been promising basic and observational studies suggesting potential mechanisms and efficacy of Biloba. Shows to prevent or delay the onset of age-related dementia[27]

1.19 Hypericum peroratum

One study reported the neuroprotective effects of H perforatum standardized extract against H2O2 trauma induced by an optimal concentration of 200 mm in the rat pheochromocytoma cell line PC12 (the cell line was found to have an extensive neuronal injury and involved in vitro models of oxidative stress and induced within 24 hours). This extract dose-dependently improved neuronal cell survival at 140 mg/mL. At 40 mg/mL, there was a 133% improvement over the range of extract concentrations from 60 to 100 mg/mL, indicating a 133% improvement in cell survival. Decreased survival was reported. , but maintained higher survival levels than controls ($p<0.05$). Perforatum extract reduced intra- and extracellular ROS levels by 71 and 50% at a concentration of 1100 mg/mL compared to the control group[28]

1.20 Piper Methysticum

Piper methysticum, commonly known as birch or hippopotamus, is a perennial shrub of the Piperaceae family native to the Pacific Ocean that is of historical and cultural importance and has been documented for its neuroprotective and anxiolytic compounds as a sedative, Analgesic, anti-inflammatory, antispasmodic and anti-ischemic effects[29]

1.21 Valeriana Officinalis

Intraperitoneal injections of valerenic acid, vale-renal, and whole-herbal extracts produced significant sedative, ataxic, and anticonvulsant effects in rats. A 100 mg/kg intraperitoneal injection had as strong a sedative effect as the barbiturates. Death occurred at a dose of 400 mg/kg. Valerian extract had weaker anticonvulsant properties compared to diazepam and chlorpromazine. Valerian root extract (Valdispert) decreased motility and prolonged thiopental- and pentobarbital-induced sleep duration. The scent of valerian root also has a calming effect[30]. In contrast to diazepam, valerian did not affect spontaneous locomotion and rearing or avoidance competition in the water-licking competition test in mice. On the other hand, valerian and imipramine significantly suppressed immobility induced by the forced swim test in rats and significantly reversed reserpine-induced hypothermia in mice; researchers suggest that valerian is a useful antidepressant. [31]

2. DISCUSSION

Although the healing possibilities used by herbs for diverse types of C.N.S. conditions have been known to humanity for centuries, little focused effort has been made to define and understand their most appropriate restorative usages or exploit them for recognizing, establishing, and establishing CNS-active drugs. By taking *Medhya Rasayanas*, the deterioration and weakening of memory processes slow down[32]. *Medhya Rasayanas* strengthens the body and maintains normal bodily functions. *Pitta dosha* maintains intelligence, and *Kapha* maintains the body with intelligence and duriti (courage) through *Sthiratmak Guna*[33]. *Medhya Rasayana* helps maintain the normal functioning of *Vata*, *Pitta*, and *kapha doshas*. *According to Ayurveda*, *Mandukaparni* is the medium of *Prabhava* (special effects). *Mandukaparni* in *Medhya Rasayana* improves learning and memory by modulating dopamine, 5-hydroxytryptamine receptors, and norepinephrine. The system was also reported in rat studies[34]. It also exhibits immunomodulatory effects indicated by increased and potent antioxidant activity levels of superoxide dismutase (SOD), glutathione peroxidase, and mouse glutathione. Ce asiatica extract and powder can Reduces H2O2-induced oxidative stress by lowering lipid levels—peroxidation by altering the antioxidant defense system[35]. The *Madura* and *Sita* qualities of *Yashtimadu* and the effects of *Vata Pitta Shamakha* and *Rasayana* produce a calming effect. Perhaps this is the reason for producing steriya and driti to establish the steadiness of the mind and improve memory. The root of G glabra Linn Contains active ingredients glycyrrhizin, glycosides, isoliquitin, liquiritin, steroid estrogen, hispaglabridin B, isoliquiritigenin, and paratocarpine B[36]. Experiments show G glabra Linn Increases blood circulation and balances the central nervous system and blood sugar levels[37]. The isoflavones glabridin and hispalglabridin A and B from G glabra Linn It has a pronounced antioxidant effect. Antioxidants protect vulnerable brain cells from oxidants reduces brain damage, improves nerve function, and memory [38]. G glabrarin ethanol extract. It has cerebral protective activity in hypoxic rats, possibly mediated by its antioxidant effects one study observed an improvement in learning and memory in mice when they were given an aqueous extract of licorice at a dose of 150 mg/kg. It is likely due to enhanced

cholinergic transmission in the mouse brain[39]. *Guduchi*, another component of *Medhya Rasayana*, has *Katu, Tikta Rasas*, which helps to keep one's attention to remember things properly. The properties of *Tridshahara* help establish balance and good coordination for capturing, retaining, and recalling memories. *Rasayana Prabhava* also helps preserve things T cordifolia includes tinosporon, tinosporic acid, cordifolisides A–E, syringes, Berberine, guilloin, dilenine, crude guilloine, arabinogalactan polysaccharides, picrotene, dilosterol, tinospoorol, tinosporidin, sitosterol, cordifol, glucan polysaccharides. T. cordifolia root extract was found to have normalizing activity against stress-induced changes in norepinephrine, dopamine, 5-hydroxytryptamine, and 5-hydroxy indole acetic acid levels T cordifolia improves cognition (learning and memory) in normal rats Cyclosporine-induced memory impairment was successfully overcome by T Cordifolia[40]. T cordifolia improved verbal learning and memory at doses of 500 mg daily, Logical memory (immediate and short-term) compared to placebo in healthy subjects[41]. According to Burton, T cordifolia has found its place in natural and herbal remedies from ADHD *Guduchi* has been shown to have antioxidant and strengthening properties. It helps both improve health and prevent future illness[42]. *Sankapushupi* is the most powerful of the four *Mediya Rasayana* medicines mentioned by *Acharya Charaka*[43]. There are *Kashaya Rasa* and *Ushna Guna*, which improve alertness, quick comprehension, and experience retention. It has *Toridshahara* traits. C pluricaulis contains many phytonutrients, such as convolidin, convolubin, convolubidin, convolidin, conforin, filabin, subhirucin, and scoporin. These compounds help stimulate the brain and improve focus[44]. C pluricaulis reduces anxiety and stress by controlling the body's production of stress hormones, adrenaline, and cortisol it has been reported to have anti-anxiety, memory-enhancing, and mood-enhancing effects, and is said to slow down the aging process of the brain[45]. Mostly the above said herbs act based on antioxidant, adaptogenic, or essential trace elements. Their activity on modulation of biological axis and neurotransmitters requires further investigation[46].

3. CONCLUSION

The supreme objective of most such efforts has been to get a patentable, better therapeutically beneficial, or much better-standardized extract. Nevertheless, more attention must be paid to the development of structurally and functionally unique C.N.S. active drugs from psychedelic medicinal plants. The readily available information summarized in this review strongly recommends that such a scenario could hinder the more rapid development of C.N.S. active drug discovery projects.

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5. AUTHOR CONTRIBUTION STATEMENT

Dr. Shweta Parwe conceptualized the data and designed the study. Dr. Jagruti Tambakhe and Dr. Varinder Singh wrote and drafted the manuscript. Dr. Milind Nisargandha and Dr. Sheetal Asutkar also provided valuable input in designing the manuscript. Finally, all authors read and approved the final version of the manuscript.

6. CONFLICT OF INTEREST

Conflict of interest declared none.

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