



"Development Of A Complex Nervine Tablet For Memory Enhancement"

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Abstract

The demand for effective, secure, and readily accessible therapeutic solutions has grown due to the increasing prevalence of neurodegenerative disorders and issues related to memory. This study aims to develop an advanced nervine tablet that incorporates a blend of medicinal herbs known for their neuroprotective, adaptogenic, and cognitive-enhancing properties. The takes advantage of the combined effects of herbs such as *Nardostachys jatamansi*, *Hyoscyamus reticulatus*, *Mimosa pudica*, *Zingiber officinale*, and *Piper nigrum*, which have been shown to enhance memory, reduce oxidative stress, and overall improve cognitive function. By merging modern pharmacological techniques like molecular docking and high-performance liquid chromatography with traditional herbal knowledge, this product aims to address existing gaps in the treatment of cognitive impairments and memory loss. Offering a natural alternative to synthetic medications that may have serious side effects, the nervine tablet provides a holistic approach to mental well-being. Furthermore, it shows promise for reducing stress, preventive care, and improving the quality of life for both individuals looking to enhance cognitive abilities and those suffering from neurodegenerative conditions. This research highlights the importance of integrating contemporary scientific methods with traditional healing practices to tackle complex neurological challenges on a global scale.

Keywords: Cognitive enhancement, Nervine tablet, Memory improvement, Neuroprotection, Traditional herbal medicine, Cognitive function, Alzheimer's disease, Herbal formulations, Stress management, Pharmacological techniques

Introduction

Cognitive health and memory enhancement are growing areas of interest in the scientific and medical community, especially with the increasing prevalence of neurodegenerative diseases and memory-related disorders. Traditional herbal medicine, with its rich history of therapeutic applications, offers a promising avenue for developing safer and more effective solutions. This study focuses on the formulation and evaluation of a complex nervine tablet designed to boost memory, utilizing a combination of medicinal herbs with well-documented neuroprotective, adaptogenic, and cognitive-enhancing properties. An exciting area of study that integrates developments in pharmacology, herbal medicine, and neuroscience is the creation of a sophisticated nervine pill for memory improvement. Effective, secure, and easily available solutions are in great demand as the prevalence of memory-related problems like cognitive decline, Alzheimer's disease, and age-related memory loss keeps rising. Since memory is essential to learning, everyday functioning, and general quality of life, it is a prime target for therapeutic interventions (1). An older population and rising life expectancy are making memory impairments a global health concern. The World Health Organization (WHO) estimates that there are approximately 55 million dementia sufferers worldwide, and that number will double every 20 years. Stress, sleep deprivation, substance abuse, and neurodegenerative diseases can cause memory loss in younger people as well as in the elderly. Alternative methods are required because current treatments frequently use synthetic medications, which may have considerable side effects and limited efficacy (2). In recent years, the idea of nervine agents has drawn a lot of attention. Compounds that promote the health and functionality of the nervous system are known as nervous substances. Depending on how these substances affect the central and peripheral neural systems, they can be stimulants, tonics, or sedatives. The safety profiles, holistic effects, and long history of use in traditional medical systems like Ayurveda, Traditional Chinese Medicine (TCM), and Unani make herbal-based nervine formulations especially alluring (3). Creating a sophisticated nervine pill to improve memory fills in a number of gaps in existing treatment approaches. Many artificial memory-boosting medications don't offer long-lasting effects or all-encompassing cognitive advantages. The suggested nervine tablet seeks to provide a comprehensive strategy for memory improvement by utilizing a blend of herbs and bioactive substances with demonstrated nootropic, adaptogenic, and antioxidant qualities (4). Finding strong nervine herbs and their active ingredients is the first step in the multi-stage development procedure. In numerous preclinical and clinical studies, ingredients such as *Hyoscyamus Reticulata*, *Mimosa Pudica*, *Nardostachys Jatamansi*, *Zingiber Officinale*, *Piper Nigrum* Linn, *Piper Longum*, *Elangveer Ras*, *Maha Vatvidhwansa Ras*, *Sootshekhar Ras*, *Mica Bhasma*, *Dashmool Ghana*, *Boerhavia Diffusa*, and *Tinospora Cordifolia* have all been shown to improve memory. The pharmacological characteristics, bioavailability, and possible interactions of these will be thoroughly examined. To guarantee accuracy in ingredient selection and formulation design, cutting-edge methods like mass spectrometry, molecular docking, and high-performance liquid chromatography (HPLC) will be used (5). The method of improving memory could be completely changed if a sophisticated nervine pill is developed successfully. Both healthy people looking to maximize cognitive performance and those with memory impairment may find their lives improved by this innovation. Additionally, it might be used in addition to traditional therapies for neurodegenerative illnesses (6). This study demonstrates the potential of holistic approaches in tackling

intricate neurological problems by fusing traditional knowledge with state-of-the-art scientific techniques, thereby promoting mental health and cognitive well-being on a worldwide scale(7)

Methodology: This detailed review was conducted through a systematic study of data analysis from the previous literature review on Development of a Complex Nervine Tablet for Memory Enhancement. PubMed and Google Scholar were used to source 40 of 14 plant studies from the period of 2015 to 2025 of its research publication. Articles with the inclusion criteria of 'plant,' 'Bhasma's and Elements used to make Medicine,' other than that all were excluded.

Review points.

1. Drug Profile that had been used to formulate the Complex Nervine Tablet for Memory Enhancement

Henbane, or *Hyoscyamus reticulatus*, is a traditional herb that has been used for its effects on the central nervous system, including enhancing memory and lowering stress-induced neurotoxicity. It contains alkaloids



Fig. 1: *Hyoscyamus reticulatus*

that have been connected to improved cognitive abilities, including scopolamine and hyoscyamine (8). *Mimosa pudica*, sometimes known as the "sensitive plant," has shown



Fig. 2: *Mimosa pudica*

promise in neuroprotection because of its anti-inflammatory and antioxidant qualities. Its phytochemicals, such as tannins and flavonoids, are known to fight oxidative stress, which is a major contributor to memory loss (9). Ginger, or *Zingiber officinale*, is a well-researched medicinal

plant known for its anti-inflammatory and neuroprotective properties. Because of its active ingredients, like gingerol and shogaol, it has been demonstrated to improve cognitive function and shield neurons from harm brought on by free radicals (10). The spices *Piper*



Fig. 3: *Zingiber officinale*

nigrum L. (black pepper) and *Piper longum* (long pepper) have long been utilized for their therapeutic qualities. Both include piperine, an alkaloid that has neuroprotective properties via lowering oxidative stress and altering neurotransmitter levels, as well as increasing the bioavailability of other substances (11).

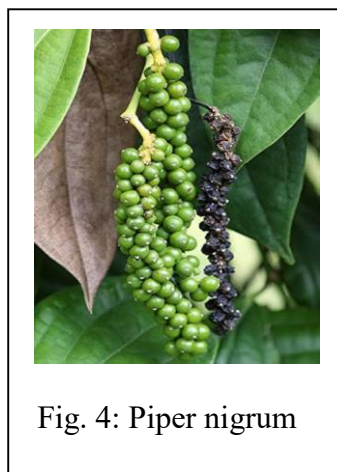


Fig. 4: *Piper nigrum*



Often called spikenard or jatamansi, *Nardostachys jatamansi* is a perennial herbaceous plant that is a member of the Valerianaceae family. Native to the alpine and subalpine parts of the Himalayas, which include India, Nepal, Bhutan, and Tibet, it is a highly prized medicinal herb. Some important facts regarding the plant are included below (12).



Fig. 5: *Nardostachys jatamansi*

The medicinal herb *Piper longum*, often called Long Pepper or Pippali in Ayurveda, is well-known for its restorative and healing qualities. It is frequently used to lower inflammation, promote nerve health, and improve memory. Piperine, a key ingredient in long pepper that has strong antioxidant and neuroprotective properties, helps to enhance cognitive performance and brain health in general. It



Fig. 6: *Piper longum*

also increases the absorption and effectiveness of other therapeutic compounds by acting as a bioavailability enhancer(13). A traditional Ayurvedic

Ekangveer Ras is well-known for its ability effectively treat musculoskeletal and neurological conditions. It helps with including paralysis, sciatica, and



Fig. 7: Ekangveer Ras

remedy, to

ailments neuralgia

because it strengthens muscles, enhances motor abilities, and supports nerve health. In order to balance Vata dosha, improve nerve regeneration, and encourage general vitality, this preparation is traditionally made with a blend of herbal and mineral elements(14). The main purpose of the traditional Ayurvedic formulation Maha Vatvidhwansa Ras is to treat illnesses associated with Vata. It is well-known for



Fig. 8: Maha Vatvidhwansa Ras

its ability to relieve joint pain, support the neurological system, and enhance general musculoskeletal health. The herbal and mineral components in this composition help the body regain equilibrium, increase mobility, and lessen the symptoms of degenerative and neurological diseases (15). A popular traditional Ayurvedic remedy, Sootshekhar Ras has balancing and relaxing effects on the neurological and digestive systems. It works very well for

treating stress-related conditions, migraines, and hyperacidity. This mixture helps reduce headaches, enhance mental clarity, and encourage general relaxation by balancing Pitta and Vata doshas. Sootshekhar Ras, which is made from a mixture of mineral and botanical elements, is prized for its capacity to bring the body and mind back into balance (16). Mica Bhasma, sometimes referred to as Abhrak Bhasma, is a refined and processed type of mica that is used extensively in Ayurveda for its healing and rejuvenating qualities.

It is well known for improving memory, brain function, and general cognitive wellness. Packed with

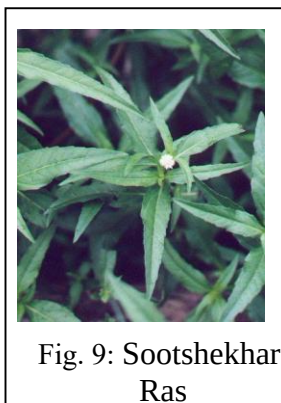


Fig. 9: Sootshekhar Ras

bioavailable nutrients and trace minerals, it boosts energy levels, fortifies the immune system, and helps treat respiratory and neurological disorders. Mica Bhasma is prized for its capacity to encourage lifespan and energy (17). Dashmool Ghana is a concentrated Ayurvedic extract made from the roots of ten medicinal plants, collectively known as Dashmool. It is widely used for its potent anti-inflammatory, analgesic, and rejuvenating properties. Dashmool Ghana helps balance Vata and Kapha doshas, supports nerve health, and reduces neuroinflammation. It is particularly effective in managing conditions like joint pain, muscle stiffness, and nervous system disorders, promoting overall physical and neurological well-being (18). Punarnava, also known as *Boerhavia diffusa*, is a well-known Ayurvedic herb that is prized for its cleansing and restorative qualities. It works well to improve memory, lower

oxidative

stress, and promote general cognitive health.

Fig. 10: Mica Bhasma Additionally, punarnava supports liver and function, which helps the body rid itself of pollutants. Packed with substances including flavonoids and alkaloids, it is frequently used to overall health, reduce inflammation, and boost vitality (19). *Tinospora* sometimes referred to as Giloy or *Amrita* in Ayurveda, is a potent adaptogenic plant that is well-known for its capacity to improve

renal

bioactive

promote

cordifolia,

immunity,

lower anxiety, and improve cognitive function. Alkaloids, glycosides, and polysaccharides, which are abundant in it, have antioxidant, anti-inflammatory, and neuroprotective properties. Giloy is a crucial herb for fostering general health and vitality because it is frequently used to reduce stress, enhance memory, and guard against neurodegenerative diseases (20).



Fig. 12: punarnava



Fig. 11: Dashmool
Ghana

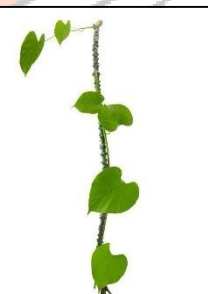


Fig. 13: *Tinospora
cordifolia*

2. Taxonomical classification of the plant used in the formulation of complex nerve tablet.

The below table mention all the plants which is used in the formulation of complex nerve tablet. Each particular plant contains scientific name, common name, kingdom, subkingdom, Division, subdivision, class, subclass, series, order, family, subfamily, genus and species to identify the plant properly Its unique Nomenclature.

Sr	Scientific & common Name of plant	Kingdom & Sub kingdom	Division & Super division	Class & Sub class	Series & Order	Family & Subfamily	Genus & Species
1.	Hyoscyamus reticulatus & Henbane	Plantae & Tracheobionta (Vascular plants)	Magnoliophyta & Spermatophyta	Magnoliopsida & Asteridae	Tubiflorae & Solanales	Solanaceae & Solanoideae	Hyoscyamus & reticulatus
2.	Mimosa pudica & Sensitive plant	Plantae & Tracheobionta	Magnoliophyta & Spermatophyta	Magnoliopsida & Rosidae	Leguminosae & Fabales	Fabaceae & Mimosoideae	Mimosa & pudica
3.	Zingiber officinale & Ginger	Plantae & Tracheobionta	Magnoliophyta & Spermatophyta	Commelinidae & Liliopsida	Zingiberales & Zingiberales	Zingiberaceae	Zingiber & officinale
4.	Nardostachys jatamansi & Jatamansi	Plantae & Tracheobionta	Magnoliophyta & Spermatophyta	Magnoliopsida & Asteridae	Valerianaceae & Dipsacales	Caprifoliaceae & Valerianoidae	Nardostachys & Nardostachys jatamansi
5.	Piper nigrum & Black Pepper	Plantae & Tracheobionta	Magnoliophyta & Spermatophyta	Magnoliidae	Piperoideae & Piperales	Piperaceae & Piperoideae	Piper & Piper nigrum

This

particular nomenclature provides us particular way to authenticate the plant with its nomenclature and reduce the chances of adulteration. Remaining are the Bhasma and element of combine plant having unique classification.

6.	Piper longum & Long Pepper	Plantae & Tracheobionta	Magnoliophyta & Spermatophyta	Magnoliopsida & Magnoliidae	Piperoideae & Piperales	Piperaceae & Piperoideae	Piper & Piper longum
7.	Boerhavia diffusa & Punarnava	Plantae & Tracheobionta	Spermatophyta & Magnoliophyta	Magnoliopsida & Caryophyllidae	Nyctagineae & Caryophyllales	Nyctaginaceae & Boerhaviaceae	Boerhavia & Boerhavia diffusa
8.	Tinospora cordifolia & Giloy	Plantae & Tracheobionta	Spermatophyta & Magnoliophyta	Magnoliopsida & Magnoliidae	Menispermaceae & Ranunculales	Menispermaceae & Tinosporeaceae	Tinospora & Tinospora cordifolia

3. Formulation of complex nervine tablet for its therapeutic use.

To guarantee the development of pharmaceutical products of superior quality, the tablet manufacturing process entails a number of meticulous stages. Active pharmaceutical ingredients (APIs) and excipients such fillers, binders, disintegrants, and lubricants are meticulously manufactured during the first step of raw material manufacturing. The mixing step, which comes after the raw materials are prepared, involves blending powders in precise ratios to provide a consistent distribution of ingredients, which is essential for the finished product's uniformity (21). If required, the granulation process is used to improve the flowability and compressibility of the combined powders by turning them into granules. There are two methods for granulation: the wet granulation method, which requires adding a liquid binder to create granules, and the dry granulation method, which is compressing powders into compacts or slugs before grinding them into granules. In order to ensure that the granules are appropriate for further processing, an extra drying step is necessary when wet granulation is used (22). A tablet press is used to compress the dried granules or directly combined powders, forming them into tablets. The tablets may go through a coating procedure to improve their qualities after compression. Coating can be used to cover up bad flavors, shield the tablets from moisture and other external elements, or allow for controlled drug release for particular medical requirements(23). To guarantee adherence to pharmaceutical



standards, stringent quality control tests are carried out after the tablets are coated. Important factors such as tablet weight, thickness, hardness, disintegration time, dissolving profile, and medication content are assessed by these assays (24). The final step, packaging, is only reached by tablets that pass these quality checks. The pills are packaged by being sealed in suitable containers, labeled with pertinent information, and given usage instructions (25). The creation of high-quality, safe, and effective tablets for consumer usage is guaranteed by this methodical process.

4. Future benefits and uses Complex Nervine Tablet for Memory Enhancement

There is a lot of promise for future advantages and applications with the creation of a sophisticated nervine tablet for memory improvement. This novel formulation, which is made from a blend of traditional medicinal herbs, offers a viable natural substitute for synthetic medications in the treatment of memory-related illnesses like Alzheimer's disease and cognitive decline (26). The pill can enhance memory, focus, and general cognitive function by utilizing the neuroprotective, adaptogenic, and nootropic qualities of its constituents. It has promise for both healthy people looking to improve their brain clarity and learning capacities as well as those with neurodegenerative diseases (27). Further promoting mental health are its adaptogenic qualities, which also make it useful for managing stress and anxiety. The nervine tablet can be used as a preventive measure against age-related memory loss and cognitive decline because it is a safer alternative with fewer adverse effects than traditional synthetic medications (28). Its adaptability is further increased by its use as an adjuvant therapy in conjunction with current neurodegenerative disease treatments. Additionally, this formulation might open the door for individualized therapies catered to each patient's unique cognitive health requirements, guaranteeing accessibility and incorporation into comprehensive treatment regimens around the world (29). This nervine tablet has the potential to enhance quality of life for a variety of populations by supporting cognitive health and addressing the rising incidence of memory disorders (30). *Nardostachys jatamansi*, *Hyoscyamus reticulatus*, *Mimosa pudica*, *Zingiber officinale*, *Piper nigrum*, and others, each contribute unique properties with significant potential for future benefits (31). As a strong neuroprotective agent, *Nardostachys jatamansi* (spikenard) has enormous potential for both preventing and treating neurodegenerative diseases like Parkinson's and Alzheimer's. Its antioxidant qualities can be used to fight oxidative stress, which is a key cause of cognitive decline and memory loss. Furthermore, it contributes significantly to stress management by lowering anxiety and enhancing sleep patterns, both of which are critical for mental health. Additionally, it holds potential for improving synaptic plasticity, a crucial component of memory and learning, through medication development (32). Similarly, alkaloids like scopolamine and hyoscyamine, which are found in *Hyoscyamus reticulatus* (Henbane), have the potential to be employed in cutting-edge treatments meant to enhance memory and lessen the neurotoxicity brought on by stress. This plant could be made into sedative or anxiolytic drugs that target the central nervous system, and it may also be useful in treating cognitive impairments associated with mental health conditions including schizophrenia and anxiety-induced memory loss (33).

The anti-inflammatory and antioxidant qualities of *Mimosa pudica* (Sensitive Plant) offer potential advantages in the treatment of neurological diseases linked to inflammation. Its phytochemicals may help create treatments for memory deficits caused by oxidative stress and act as a natural cure to stop cognitive decline in younger people that are stressed or sleep deprived (34). With medicinal ingredients like gingerol and shogaol, *Zingiber officinale* (ginger) shows promise in treating and preventing diseases like memory loss brought on by free radical damage. It could be incorporated into functional foods or nutraceuticals that enhance cognitive function and healthy aging, and its anti-inflammatory qualities make it a promising option for the development of treatments for neuroinflammatory illnesses (35). The spices *Piper nigrum* (Black Pepper) and *Piper longum* (Long Pepper) contribute through the active alkaloid piperine, which boosts the bioavailability of other medicinal ingredients, making it valuable in multi-herbal compositions. Their neuroprotective characteristics could enable therapies addressing neurotransmitter imbalances associated with memory loss and cognitive diseases, while their usage in enhancing brain-targeted drug delivery systems has substantial potential (36). Furthermore, the adaptogenic and rejuvenating qualities of *Tinospora cordifolia* (Giloy) and *Boerhavia diffusa* (Punarnava) may improve nervous system health and fend off age-related memory loss. Additionally, their immunomodulatory actions could be used in therapeutic interventions (37). Furthermore, the adaptogenic and rejuvenating qualities of *Tinospora cordifolia* (Giloy) and *Boerhavia diffusa* (Punarnava) may improve nervous system health and fend off age-related memory loss. They may also be used to treat autoimmune diseases that impair cognitive function through their immunomodulatory actions (38). In summary, the combination of these herbs has enormous promise for tackling the world's problems with memory loss and neurodegenerative illnesses. They could be developed into functional foods, nutraceuticals, and targeted medications by furthering study into their pharmacological characteristics (39). This paves the path for long-lasting and easily accessible healthcare interventions by satisfying the growing demand for natural, plant-based therapies with few adverse effects. These plants' effectiveness and influence in enhancing cognitive health globally may be further increased by incorporating them into contemporary drug delivery systems and personalized medicine tactics (40).

Conclusion:

The integration of plant-based compounds and dietary supplements into nervine tablet formulations holds significant promise for memory enhancement. These findings underscore the importance of leveraging traditional herbal knowledge and modern pharmacological insights to develop effective, natural cognitive enhancers. As a combination of carefully chosen natural herbs, polyherbal nervine tablets present a promising strategy for boosting memory and cognitive performance. The tablets offer a comprehensive approach to promoting brain health by utilizing the combined benefits of several herbs with neuroprotective and cognitive-boosting qualities. They are a good choice for long-term use because of their natural makeup, for cognitive difficulties will be strengthened by further study and clinical validation.

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