ISSN: 2322 - 0902 (P)
ISSN: 2322 - 0910 (O)

International Journal of Ayurveda and Pharma Research

Review Article

REVISITING *MEDHYA DRAVYAS* OF *KAIYYADEVA NIGHANTU*: A TEXTUAL ANALYSIS WITH NEUROPHARMACOLOGICAL AND GENDER SPECIFIC INSIGHTS

C. Indu Priyanka[1]*, K. Madhusudana Rao[2], T. Jyotsna Kumari[3], Rathour Yamini Diwakar[4], T. Leela Rani[4]

*[1]PG Scholar, [2]Professor & HOD, [3]Associate Professor, [4]Assistant Professors, Department of Dravya Guna, Dr.NRS Government Ayurvedic College, Vijayawada, Andhra Pradesh, India.

Article info

Article History:
Received: 09-02-2026
Accepted: 14-03-2026
Published: 10-04-2026

KEYWORDS:
Kaiyyadeva Nighantu, Aushadhi Varga, Medhya Dravyas, Gender specific, Memory, Cognition.

ABSTRACT

The classical Ayurvedic concept of *Medhya Dravyas* – herbs that enhance memory, intellect and mental clarity- represents an early attempt at understanding cognitive neurobiology through holistic principles. *Kaiyyadeva Nighantu*, a 15th century Ayurvedic lexicon, identifies multiple cognition –promoting herbs within its *Aushadha Varga*. Despite their textual significance. their neuro-pharmacological mechanism and gender –specific effects remain poorly analyzed. **Objectives:** To integrate textual descriptions of 25 *Medhya Dravyas* from *Kaiyyadeva Nighantu* with modern phytochemical and neuro-endocrine evidence, highlighting gender-specific pharmacodynamics. **Methods:** Primary data were drawn from *Kaiyyadeva Nighantu* (*Aushadha Varga*, Chaukhambha Edition 1979). Secondary data were compiled from PubMed, Scopus, Science Direct, and AYUSH Research Portal (2000–2025). Only peer-reviewed studies reporting cognitive, adaptogenic, or endocrine actions of the listed herbs were included. Parameters extracted: *Rasa, Guna, Veerya, Vipaka, Prabhava*, phytochemical class, neuro-chemical mechanism, and reproductive influence. **Results:** Dominant compounds- flavonoids, alkaloids, terpenoids, saponins- demonstrated antioxidant, cholinergic, and neuro-endocrine activity. Phyto-estrogenic herbs *(Shatavari, Nirgundi, Jeeraka)* improved cognition in female models, whereas androgenic agents *(Brahmi, Kushmanda, Badara)* enhanced male performance and mitigated andropause. **Conclusion:** The integrated evidence affirms that Kaiyyadeva Nighantu's *Medhya Dravyas* act through multi-layered neuro-chemical and hormonal pathways, providing an Ayurvedic prototype for gender-responsive, personalized neuro-therapeutics.

INTRODUCTION

Cognitive health forms the cornerstone of human well-being, influencing learning, memory, decision-making, and emotional balance. In Ayurveda, this cognitive function is deeply embedded in the capacity for memory (*Smriti*), intellect (*Buddhi*) and mental clarity. Herbs that promote these functions are collectively known as *Medhya Dravyas* that are reputed to enhance intellectual capacity and mental clarity. Although classical Ayurvedic texts such as *Charaka Samhita* and *Sushruta Samhita* extensively document these herbs, the *Kaiyyadeva Nighantu*- a seminal medieval lexicon- provides an underexplored yet critical repository of medicinal plants within its *Aushadha Varga* that possess potent *Medhya* properties. Despite their acknowledged therapeutic value, many herbs cited in the *Kaiyyadeva Nighantu* have not been thoroughly examined from a contemporary pharmacological perspective. This study aims to bridge that gap through a dual approach: a textual analysis of *Medhya Dravyas* mentioned in *Kaiyyadeva Nighantu* and a pharmacognostic and phytopharmacological review of their active constituents. A novel dimension of this study is the exploration of gender specific effects of these herbs, based on their phyto-oestrogenic, aphrodisiac or androgenic properties. Such an approach not only deepens our understanding of *Medhya Dravyas* but also offers insights into gender sensitive applications in

Access this article online

Quick Response Code

https://doi.org/10.47070/ijapr.v14i4.4110

cognitive care. By harmonizing traditional Ayurvedic wisdom with contemporary biomedical insights, this work highlights the enduring relevance of *Kaiyyadeva Nighantu* in the evolving field of integrative neuroscience.

MATERIALS AND METHODS:

Data sources

Primary Source Methodology

Kaiyyadeva Nighnatu (Aushadhi Varga) was used as the authoritative source. Each drug entry was evaluated for:

- *Rasa, Guna, Veerya, Vipaka* and *Prabhava*
- Indications related to intellect *(Medha),* memory *(Smriti),* stability *(Dhriti)* or mind *(Manas).*
- References to *Rasayana, Satvavajaya* actions and *Manovikaras*.

Drugs fulfilling at least one *Medhya* –relevant classical criterion were shortlisted.

A total of 25 herbs were finalized.

Modern Scientific Data Retrieval

To correlate these classical attributes with modern evidence, a structured search was performed across: PubMed, Scopus, Science Direct, AYUSH Research Portal, Web of Science.

The search timeframe was 2000-2025 (around 85 articles) to capture up to date neurobiological and endocrine research.

Table 1: *Dravyas* along with their *Rasa Panchaka* as *Medhya Dravyas*

S.No	*Dravya*	Botanical Name Family	*Rasa*	*Guna*	*Virya*	*Doshaghnatha*
1.	*Guduchi*	*Tinospora cordifolia* *Menispermaceae*	*Kashaya* *Katu, Tikta*	*Laghu*	*Ushna*	*Tridoshahara*
2.	*Gambhari [Phala]*	*Gmelina arborea* *Verbenaceae*	*Kashaya* *Amla, Madhura*	*Guru* *Snigdha*	*Sheeta*	*Kaphapittahara*
3.	*Nirgundi*	*Vitex negundo* *Verbenaceae*	*Tikta, Katu* *Kashaya*	*Laghu*	*Sheeta*	*Kaphavatahara*
4.	*Haritaki*	*Terminalia chebula* *Combretaceae*	*Lavana varjitha pancha rasa*	*Ruksha*	*Ushna*	*Tridoshahara*
5.	*Bijapura Phala Kesara*	*Citrus medica* *Rutaceae*	*Amla*	*Laghu*	*Ushna*	*Vatakaphahara*
6.	*Dadima*	*Punica granatum* *Punicaceae*	*Madhura* *Amla, Kashaya*	*Snigdha* *Laghu*	-	*Kaphavatahara*
7.	*Badara Sushka phala*	*Ziziphus jujuba* *Rhamnaceae*	*Madhura*	*Snigdha*	*Ushna*	*Vatashamaka*
8.	*Bhallatakasthi*	*Semecarpus anacardium* *Anacardiaceae*	*Madhura* *Tikta* *Kashaya*	*Laghu* *Snigdha* *Tikshna*	*Ushna*	*Vatakaphahara*
9.	*Kushmandaki [Pakwa phala]*	*Benincasa hispida* *Cucurbitaceae*	*Madhura*	*Laghu*	*Ushna*	*Tridoshashamaka*
10.	*Vatsuka*	*Chenopodium album*	*Madhura* *Katu* *Kshara*	*Laghu*	-	*Tridoshahara*
11.	*Vishnukranta*	*Evolvulus alsinoides* *Convolvulaceae*	*Katu, Tikta* *Kashaya*	-	-	*Kaphahara*
12.	*Bakuchi*	*Psoralea corylifolia* *Fabaceae*	*Kashaya* *Tikta* *Madhura*	*Laghu*	*Sheeta*	-
13.	*Jyotismati*	*Celastrus paniculatus* *Celastraceae*	*Kashaya* *Tikta, Katu*	*Snigdha* *Thikshna*	*Ushna*	*Kaphavat ahara*

14.	*Brahmi*	*Bacopa monnieri* *Plantaginaceae*	*Tikta Kashaya* *Madhura*	*Laghu*	*Sheeta*	-
15.	*Shravani*	*Sphaeranthus indicus* *Asteraceae*	*Madhura* *Kashaya* *Tikta, Katu*	*Laghu*	*Ushna*	*Vatakaphashamaka*
16.	*Shatavari*	*Asparagus racemosus* *Asparagaceae*	*Tikta* *Madhura*	*Guru* *Snigdha*	*Sheeta*	*Vatapittahara*
17.	*Mahashatavari*	*Asparagus sarmentosus* *Asparagaceae*	*Tikta*	*Laghu*	*Sheeta*	*Tridoshahara*
18.	*Shami phala*	*Prosopis cineraria* *Mimosaceae*	*Madhura*	*Ruksha*	*Ushna*	*Pitta vardhaka*
19.	*Jeeraka*	*Cuminum cyminum* *Apiaceae*	*Katu, Tikta*	*Laghu* *Ruksha*	*Ushna*	*Vatakaphahara*
20.	*Shatapushpa*	*Anethum sowa* *Apiaceae*	*Katu, Tikta*	*Tikshna* *Laghu*	*Ushna*	*Kaphavatanashaka*
21.	*Vacha*	*Acorus calamus* *Araceae*	*Katu, Tikta*	-	*Ushna*	*Kaphavatahara*
22.	*Tagara*	*Valeriana wallichi* *Valerianaceae*	*Madhura* *Tikta, Katu* *Kashaya*	*Laghu* *Snigdha*	*Ushna*	*Tridoshashamaka*
23.	*Renuka [Nirgundi beeja]*	*Vitex negundo* *Verbenaceae*	*Tikta, Katu*	*Laghu*	*Anushna*	*Kaphavatanashaka*
24.	*Sthouneyaka*	*Taxus baccata* *Taxaceae*	*Tikta* *Madhura*	*Snigdha* *Guru*	-	*Tridoshashamaka*
25.	*Kumuda*	*Nymphaea alba* *Nymphaeaceae*	*Madhura*	*Pichila* *Snigdha*	*Sheeta*	*Vatalam*

RESULTS

A total of 25 *Medhya Dravyas* listed in *Kaiyyadeva Nighantu (Aushadha Varga)* met the inclusion criteria and demonstrated both classical cognition-enhancing attributes and modern neuro-pharmacological activity.

Modern evidence supported their actions through five dominant mechanistic clusters:

1. Neurotransmitter modulation (Cholinergic, GABAergic, Dopaminergic)
2. Oxidative stress regulation and neuro inflammation control.
3. Neurogenesis and synaptic plasticity enhancement.
4. HPA-axis and stress adaptation.
5. Endocrine and Reproductive modulation with gender-specific effects.

These findings were integrated into a comprehensive expanded table.

Table 2: Phyto constituents and probable actions shown by *Dravyas*

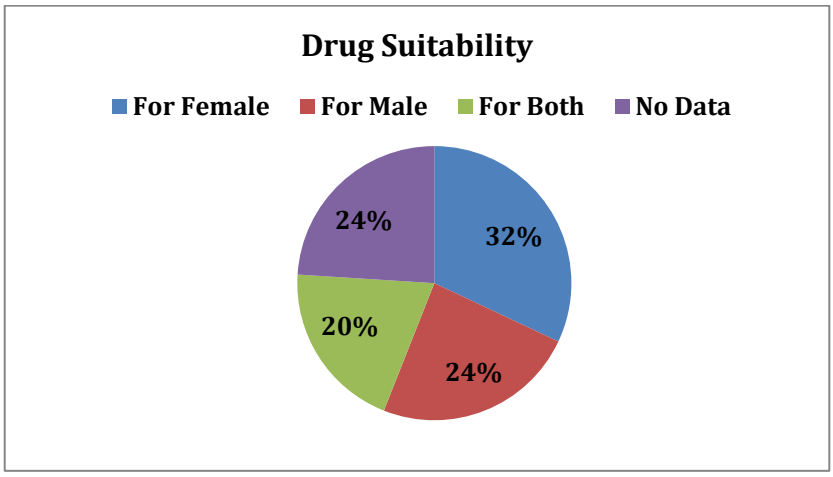
S.No.	***Dravya***	**Phytoconstituents**	**Cognitive Role**	**Reproductive influence**	**May Best suit for**
1.	*Guduchi*	Tinosporide Cordifolide Cordifol Tinocordifolin Magnoflorine Berberine	Adaptogenic activity[2] Anti-depressant activity Anxiolytic activity	Balances Oestrogen and LH/FSH[3]. Anti-Androgenic effect. [4] Reduced sperm motility	Female

		Palmatine Syringin			
2.	*Gambhari [Phala]*	Arboreal Gmelinol Luteolin Apigenin	Neuroprotective[5] Improved learning and memory	Phyto oestrogenic after menopause.[6]	Female
3.	*Nirgundi*	Vitex ligans Casticin Vitexin	Global cerebral ischemia 7, oxidative stress, neuroprotective, anti-oxidant	Positive effect on PCOS by modulating hormonal imbalances[8], anti–androgenic activity[9]	Female
4.	*Haritaki*	Chebulagic acid Chebulinic acid Chebulic Myrobalan Quercitin Luteolin	Neuroprotective Anti-oxidant Enhance cholinergic neurotransmission [10]	Anti spermatogenic activity [11] No direct references on effect on female.	-
5.	*Bijapura Phala Kesara*	Limonene Alpha pinene Hesperidin Linolool	Anxiolytic effect Enhanced synaptic plasticity anti oxidant[12]	Oestrogenic effect [13]	Female
6.	*Dadima*	Punicalagin Punicalin Delphinidin Cyanidin Quercitin	Neuroprotective, reduce oxidative stress, improve memory [14]	Anti- proliferative activity in breast cancer[15], protects sperm from oxidative damage. [16]	Male & Female
7.	*Badara Sushka phala*	Betulinic acid Jujuboside A &B Quercitin Kaempferol Rutin	Sedative–hypnotic effect, neuroprotective activity [17]	Promotes fertility in uterine adhesions.[18] Improvement in sperm quality and testosterone levels.[19]	Male & Female
8.	*Bhallatakasthi*	Anacardic acid Bhilwanols Semecarpine Semecarpol	Anti-oxidant Neuroprotective Nootropic effect[20]	Contraceptive activity[21] Aphrodisiac activity Improves testosterone levels [22]	Male
9.	*Kushmanda (Pakwa phala)*	Cucurbitacins (B,D,E) Quercitin Kaempferol Gallic acids	Neuroprotective effect [23]	Safe to consume for both [24] Reduces BPH [25]	Male & Female
10.	*Vatsuka*	Quercitin Kaempferol Ferulic acid Caffeic acid Gallic acid	Enhanced memory and learning [26]	Aphrodisiac Spermatogenic effects[27] No studies done on female reproductive system	Male
11.	*Vishnukranta*	Evolvine	Enhanced memory	Needs validation	-

		Shankapushpine Quercitin Kaempferol	and learning cognitive enhancing and anti-oxidant effect [28]		
12.	*Bakuchi*	Psoralen Isopsoralen Bakuchiol Bavachin Corylin	Neurogenesis Cognitive enhancing[29]	Aphrodisiac testosterone production [30]	Male
13.	*Jyotismati*	Celastrine Paniculatine Malkangunin Oleic acid Linoleic acid	Neuroprotective activity Enhanced memory and learning[31]	Anti-spermatogenic effect [32] No current research on female reproductive system	-
14.	*Brahmi*	Brahmine Bacoside A Bacoside A3	Enhances mental calmness neurogenesis synaptic plasticity enhancement anti oxidant [33]	Spermatogenesis, improve sperm quality, [34] no scientific evidence on female reproductive system.	Male
15.	*Shravani*	Sphaeranthine Apigenin Quercetin Kaempferol	Anxiolytic activity Anti – amnestic activity[35]	Anti –prostatic hyperplasia activity,I mproves testicular function.[36] No enough research on Female Reproductive System	Male
16.	*Shatavari*	Asparagamine A ShatavarinsI-X Racemoside A, B, C Quercitin Rutin	Adaptogenic activity Antidepressant effect Neuroprotective effect[37]	Phyto oestrogenic effect,[38] enhancement of sperm motility, improvement in penile erection. [39]	Female & Male
17.	*Mahashatavari*	Shatavarins I-IV Asparagamine A Quercitin Rutin	Anxiolytic effect	Phyto oestrogenic effect	Female & Male
18.	*Shami phala*	ProsogerinA-E Vitexin Puerarin Spicigerine Prosophylline	Nootropic activity [40]	Improves sperm count, motility [41]	Male
19.	*Jeeraka*	Cuminaldehyde Alpha pinene Limonene Luteolin Apigenin	Calming and Enhances memory [42]	Contraceptive activity, declined testosterone levels,[43] phyto oestrogenic activity,[44] improved lactation	Female

		Linalool			
20.	*Shatapushpa*	Carvone Limonene Phellandrene Apiole Kaempferol Quercitin	Anti-depressant activity, enhanced memory [45]	Regularization of menstrual intervals. Galactogogue [46]	Female
21.	*Vacha*	Beta –Asarone Alpha – Asarone Camphene Limonene Asarone Calamol	Anti-depressant activity Anti-convulsant effect Nootropic effect [47]	Combined with Allium sativum and Curcuma mangga showed increased oestrogen and progesterone levels[48]	Female
22.	*Tagara*	Valepotriates Valerenic acid Valeranone Valerianine Chatinine	Sedative and Hypnotic effect Memory enhancing[49]	Abnormality in spermatozoa due to high doses[50] No research activity on female reproductive system	-
23.	*Renuka [Nirgundi beeja]*	Nigudin B Vitedoamine 3beta acetoxyolean -12-en-27-oic acid Vitexin Isovitexin	No research evidence	Anti –Androgenic activity [51] Phyto estrogenic activity [52]	Female
24.	*Sthouneyaka*	Quercitin Myricetin Apigenin Taxine A Taxine B Taxiresinol	No research evidence	No research evidence	-
25.	*Kumuda*	Nupharine Nymphaeine	Anxiolytic effect [53]	No research evidence	-

Pie Diagram showing the Best suitable drugs in Each Category



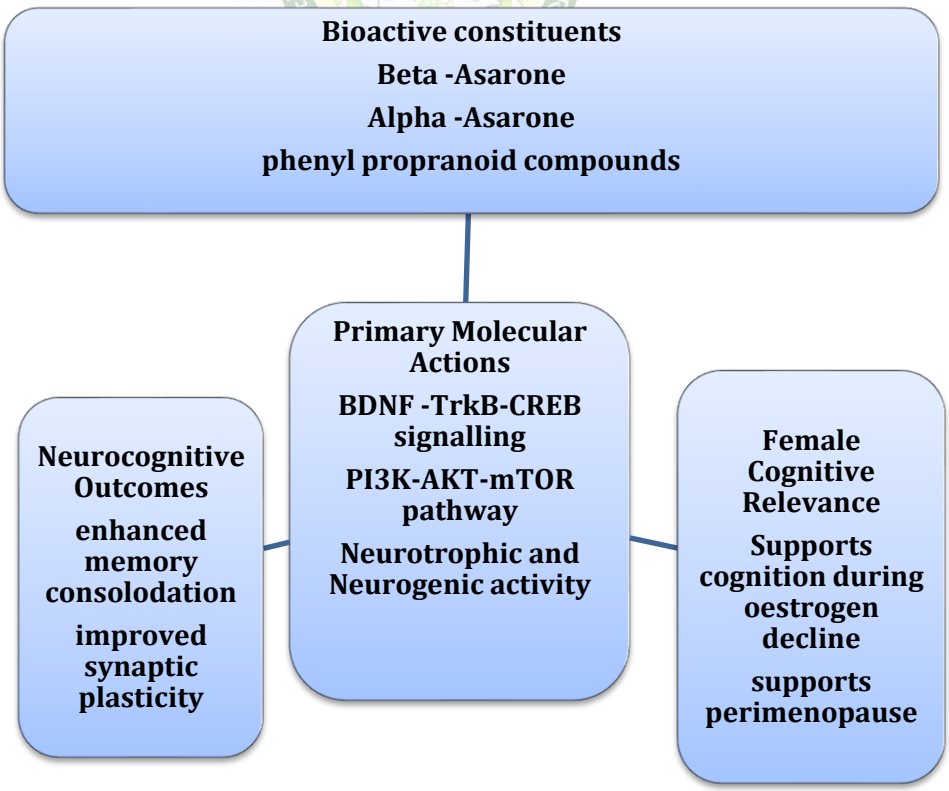
Considering an example to demonstrate the process of Neuro-Harmonal Pathway:

Drug Name: *Vacha*; Botanical Name: Acorus calamus Linn.; Family: Araceae

Image showing Dried Rhizome of *Vacha*

Mechanism of Action: Emerging evidence on Acorus calamus adds an additional mechanistic dimension to the *Medhya Dravyas* reviewed in this study. The major bioactive constituents- particularly β-asarone and α-asarone- demonstrate the ability to modulate key neurocognitive pathways by enhancing BDNF–TrkB–CREB signaling, facilitating PI3K–AKT–mTOR mediated neuronal survival and attenuating oxidative and inflammatory stress through Nrf2 activation and NF-κB suppression. These pathways are central to memory consolidation, synaptic plasticity, and hippocampal resilience[54], thereby aligning closely with the Ayurvedic concept of *Medha*. In the context of female cognition, the relevance of these pathways becomes more pronounced, as estrogen decline during perimenopause or menopause is known to reduce BDNF expression and impair synaptic connectivity. While Acorus calamus is not inherently phytoestrogenic, its capacity to elevate neurotrophic and antioxidant mechanisms may offer complementary cognitive support in estrogen-deficient states. However, translation into clinical use demands caution due to β-asarone–associated toxicity concerns, highlighting the need for purified, standardized extracts and rigorous dose evaluation. Integrating these mechanistic insights positions Acorus calamus as a promising yet carefully conditional candidate within gender-responsive *Medhya* therapeutics.

Schematic Representation of *Vacha* showing Neuro-Harmonal Pathway



DISCUSSION

Pharmacognostic Precision in Kaiyyadeva Nighantu

A notable strength of *Kaiyyadeva Nighantu* is its systematic specification of plant parts, where each drug is described with explicit morphological detail-fruit, flower, stamens, dried fruit, seeds, bark, or leaves. Such precise classification is not merely descriptive but serves a crucial pharmacognostic purpose, ensuring correct identification, authentication, and selection of plant material. The demarcation of plant parts also aligns with modern understanding that phytochemical composition varies significantly across different morphological segments. For instance, lignans are concentrated in the stem bark of *Gambhari*, saponins in the roots of *Shatavari*, and bacosides in the aerial parts of *Brahmi*. Thus, the classical text inherently promotes targeted extraction of bioactive constituents, optimizing therapeutic outcomes.

Phytochemical Insights and Neuropharmacological Correlates

The *Medhya Dravyas* listed in *Kaiyyadeva Nighantu* possess well-characterized phytochemicals such as bacosides *(Brahmi),* celastrine *(Jyotishmati),* shatavarins *(Shatavari),* punicalagins *(Dadima),* and jujubosides *(Badara).* Contemporary neuropharmacology demonstrates that these constituents are not merely supportive tonics but act through defined molecular pathways, including:

- Enhancement of cholinergic neurotransmission, improving learning and memory.
- Promotion of hippocampal neurogenesis and synaptic plasticity.
- Modulation of the HPA axis, thereby enhancing stress resilience.
- Antioxidant and anti-inflammatory activity reducing neurodegenerative changes.

These mechanisms underscore a sophisticated Ayurvedic intuition of cognitive neuroscience, centuries before the advent of modern neurology.

Gender –Specific Actions of *Medhya Dravyas*

A particularly novel dimension of this review is the gender-differentiated cognitive and endocrine effects demonstrated by several *Medhya Dravyas*.

Female-Adaptive (Phytoestrogenic) *Medhya* Herbs

Herbs like *Shatavari, Nirgundi, Jeeraka, Shatapushpa, Renuka, Dadima* contain phytoestrogens or progesterone-modulating compounds that:

- Support menopausal cognition
- Enhance mood stability
- Improve memory under estrogen-deficient conditions
- Modulate menstrual cycles
- Regulate prolactin and female reproductive hormones.

Their classical labels such as *Stri-hita, Stanya-janana*, *Prajasthapana* perfectly align with these actions.

Male-Adaptive (Androgenic) *Medhya* Herbs

Conversely, herbs like *Brahmi, Kushmanda, Badara, Bhallataka, Jyotishmati* demonstrate androgen-enhancing, spermatogenic, and dopaminergic stimulatory effects.

These actions support

- Cognitive decline in aging males
- Low motivation
- Stress-induced testosterone depletion
- Andropause-related neuroendocrine imbalance.

These correlate with classical designations such as *Vrishya, Balya* and *Pumsavana*.

Rapid Onset Reproductive and Harmonal Effects (2-6 Weeks Evidence)

A compelling observation from preclinical research is that many *Medhya Dravyas* exhibit reproductive effects within short durations (Typically 2-6 weeks).

Examples of Male Endocrine Modulation: *Bakuchi*, *Bhallataka*, *Jyotishmati* showed decreased spermatogenesis, testosterone alteration, or anti-fertility potential within 15-45 days.

Examples of Female Endocrine Modulation: *Shatavari*, *Nirgundi, Jeeraka* demonstrate oestrogenic actions, uterine modulation, menstrual regulation in similar time frames.

Clinical Implication: Even when used primarily for cognitive enhancement, these herbs may exert unintended hormonal effects.

- Long term use in sexually active young adults must be monitored.
- Herbs with anti-fertility potential should be avoided unless clinically indicated.
- Gender-specific selection is crucial when prescribing *Medhya* formulations.

This supports a safety-conscious, context-specific application of *Medhya* therapies.

Dual Action and Universal Herbs

Some *Medhya* herbs such as *Dadima* and *Shatavari* demonstrate *Dula*– action potential, benefiting both genders through:

- Anti–oxidant mechanisms
- Adaptogenic effects
- Hormone –Balancing activity

This aligns with Ayurvedic principles of *Tridoshahara* and *Sarvabhauma Chikitsa*, suggesting universal applicability with internal adaptive intelligence.

Step Toward Precision Ayurveda

The emerging gender-driven understanding of *Medhya Dravyas* directly supports the philosophy of precision Ayurveda, where: *Prakriti*; gender; age; neuroendocrine status guide herb selection. This reflects modern personalized medicine, highlighting Ayurveda's intrinsic precision and individualization.

Limitations and Need for Clinical Translation

Despite encouraging findings, most modern evidence arises from preclinical in-vitro and in-vivo studies. There is need for:

- Well –controlled human trials
- Gender-stratified dosage studies
- Investigations into herb-drug and herb hormone interactions.
- Long term safety data
- Identification of hormonal thresholds where benefits turn into adverse effects.

CONCLUSION

Kaiyyadeva Nighantu offers a profound repository of *Medhya Dravyas* with diverse cognitive and systemic effects, grounded in classical Ayurvedic principles. This study presents a novel interpretative approach by correlating the traditional attributes and phytoconstituents of these herbs with contemporary evidence on hormonal and neurological functions. This perspective brings to light the potential of certain *Medhya Dravyas* in a gender responsive manner. Such insights pave the way for more personalized, evidence-based applications of Ayurvedic cognition enhancers, reinforcing their relevance in modern integrative neuroscience and mental health care.

REFERENCES

1. Prof. Priyavata Sharma & Dr. Guru Prasada Sharma, Kaiyadeva-nighantu Hindi translation, Chaukhambha Publication, Varanasi; first edition (1979), Aushadi-varga
2. Bhandari A, Sunkaria A, Kaur G. Dietary Supplementation with Tinospora cordifolia Improves Anxiety-Type Behavior and Cognitive Impairments in Middle-Aged Acyclic Female Rats. Front Aging Neurosci. 2022 Jul 28; 14: 944144. doi: 10.3389/fnagi.2022.944144. PMID: 35966795; PMCID: PMC9366175.
3. Rani R, Sharma AK, Chitme HR. Therapeutic Effect of Tinospora cordifolia (Willd) Extracts on Letrozole-Induced Polycystic Ovarian Syndrome and its Complications in Murine Model. Clin Med Insights Endocrinol Diabetes. 2023 Oct 27; 16: 11795514231203864. doi: 10.1177/11795514231203864. PMID: 37901891; PMCID: PMC10612436.
4. Gupta RS, Sharma A. Antifertility effect of Tinospora cordifolia (Willd.) stem extract in male rats. Indian J Exp Biol. 2003 Aug; 41(8): 885-9. PMID: 15248490.
5. Sori, R., Poojar, B., Hodlur, N., & Gandigawad, P. (Accepted/In press). Effect of Gmelina arborea on learning and memory in amnesia-induced and non-amnesia groups of albino Wistar rats. Journal of Basic and Clinical Physiology and Pharmacology. https://doi.org/10.1515/jbcpp-2018-0202
6. Wayal, Sandesh R. (2013). THE Osteoprotective Effect of Gmelina Arborea Extract in Ovariectomized Rats. 974-9446.
7. Mehta K, Bhagwat DP, Devraj, Sehgal P, Mittal G, Suchal K. Vitex negundo protects against cerebral ischemia-reperfusion injury in mouse via attenuating behavioral deficits and oxidative damage. Psychopharmacology (Berl). 2022 Feb; 239(2): 573-587. doi: 10.1007/s00213-021-06050-z. Epub 2022 Jan 24. PMID: 35072759.
8. Kar, T.K., Sil, S., Ghosh, A. et al. Mitigation of letrozole induced polycystic ovarian syndrome associated inflammatory response and endocrinal dysfunction by Vitex negundo seeds. J Ovarian Res 17, 76 (2024). https://doi.org/10.1186/s13048-024-01378-4
9. Bhargava SK. Antiandrogenic effects of a flavonoid-rich fraction of Vitex negundo seeds: a histological and biochemical study in dogs. J Ethnopharmacol. 1989 Dec; 27(3): 327-39. doi: 10.1016/0378-8741(89)90007-x. PMID: 2615438.
10. Chang, C. L., & Lin, C. S. (2012). Phytochemical composition, antioxidant activity, and neuroprotective effect of Terminalia chebula Retzius extracts. Evidence-Based Complementary and Alternative Medicine, 2012, 125247. https://www.ncbi.nlm.nih.gov
11. Gupta, P. C., & Yadav, L. (2024). Evaluation of anti-spermatogenic and antifertility properties of Terminalia chebula (Retz.) in albino mice. International Journal of Reproduction, Contraception, Obstetrics and Gynecology, 13(7), 1774–1784. https://doi.org/10.18203/2320-1770.ijrcog20241774
12. Yang Y, Song Y, Xu W, Ai Z, Zhu G, Yang M, Zheng Q, Xu H, Liu Y, Ping Y, Su D. Citrus medica L. essential oil improves anxiety-like behaviors accompanied by fatigue through α7-nAChR receptor-mediated neuroprotection effects. J Ethnopharmacol. 2025 Apr 25; 346: 119667. doi: 10.1016/j.jep.2025.119667. Epub 2025 Mar 21. PMID: 40122317.

13. Patil, Dr. Sharangouda & K., Raguraj & S, Venkatesh & T., Vishwanatha. (2016). Progestogenic Activity of Citrus medica Seeds in Albino Rats.
14. Kumar S, Maheshwari KK, Singh V. Protective effects of Punica granatum seeds extract against aging and scopolamine induced cognitive impairments in mice. Afr J Tradit Complement Altern Med. 2008 Oct 25; 6(1): 49-56. doi: 10.4314/ajtcam.v6i1.57073. PMID: 20162041; PMCID: PMC2816527.
15. Adams LS, Zhang Y, Seeram NP, Heber D, Chen S. Pomegranate ellagitannin-derived compounds exhibit antiproliferative and antiaromatase activity in breast cancer cells in vitro. Cancer Prev Res (Phila). 2010 Jan; 3(1): 108-13. doi: 10.1158/1940-6207.CAPR-08-0225.
16. Leiva KP, Rubio J, Peralta F, Gonzales GF. Effect of Punica granatum (pomegranate) on sperm production in male rats treated with lead acetate. Toxicol Mech Methods. 2011 Jul; 21(6): 495-502. doi: 10.3109/15376516.2011.555789. Epub 2011 Mar 21. PMID: 21417630.
17. Kandeda AK, Nguedia D, Ayissi ER, Kouamouo J, Dimo T. Ziziphus jujuba (Rhamnaceae) Alleviates Working Memory Impairment and Restores Neurochemical Alterations in the Prefrontal Cortex of D-Galactose-Treated Rats. Evid Based Complement Alternat Med. 2021 May 31; 2021: 6610864. doi: 10.1155/2021/6610864. PMID: 34194520; PMCID: PMC8184324.
18. Asgharzadeh F, Attarian M, Khazaei M, Al-Asady AM, Mansoori S, Naimi H, Eskandari M, Khorrami A, Nazari SE, Aminian A, Farazastanian M, Eshtad E, Avan A, Ryzhikov M, Hasanzadeh M, Hassanian SM. Ziziphus jujube promotes fertility and pregnancy outcomes in Rat model of uterine adhesions. Front Pharmacol. 2025 Jan 27; 15: 1496136. doi: 10.3389/fphar.2024.1496136. PMID: 39931514; PMCID: PMC11807978.
19. Mohebbati R, Kamkar-Del Y, Shahraki S, Khajavi Rad A. The testicular protective effects of standardised hydroalcoholic extract of Ziziphus jujuba Mill against adriamycin-induced toxicity. Andrologia. 2021 May; 53(4): e13974. doi: 10.1111/and.13974. Epub 2021 Feb 10. PMID: 33565101.
20. Renuka Mahajan, V. Ragini, Pankaj Pimpalshende, Habeeba Rahman P, Seema Firdouse, Shailja Singh, Rahul Kumar Sharma, & Mohd. Shahid Khan. (2023). "Assessment of Semecarpus Anacardium Seeds for Nootropic Activity". Journal of Coastal Life Medicine, 11(2), 653–659. Retrieved from https://www.jclmm.com/index.php/journal/article/view/1061
21. Sushma Y, Kulkarni G and Singh S: Antifertility Activity of Aqueous and Ethanolic Extracts of Semecarpus Anacardium Fruit in Female Albino Rats. Int J Pharm Sci Res 2016; 7(3): 1235-39 doi: 10.13040/1UPSR.0975-8232.7(3),1235-39.
22. Sharma A, Verma PK, Dixit VP. Effect of Semecarpus anacardium fruits on reproductive function of male albino rats. Asian J Androl. 2003 Jun; 5(2): 121-4. PMID: 12778323.
23. Rapaka D, Bitra VR, Ummidi R, Akula A. Benincasa hispida alleviates amyloid pathology by inhibition of Keap1/Nrf2-axis: Emphasis on oxidative and inflammatory stress involved in Alzheimer's disease model. Neuropeptides. 2021 Aug; 88: 102151. doi: 10.1016/j.npep.2021.102151. Epub 2021 Apr 22. PMID: 33932860.
24. Anshul Shakya, Sushil Kumar Chaudhary, Hans Raj Bhat, Surajit Kumar Ghosh, Acute and sub-chronic toxicity studies of Benincasa hispida (Thunb.) cogniaux fruit extract in rodents, Regulatory Toxicology and Pharmacology, Volume 118, 2020, 104785, https://doi.org/10.1016/j.yrtph.2020.104785.
25. Nandecha C, Nahata A, Dixit VK. Effect of Benincasa hispida fruits on testosterone-induced prostatic hypertrophy in albino rats. Curr Ther Res Clin Exp. 2010 Oct; 71(5): 331-43. doi: 10.1016/ j.curtheres.2010.10.006.
26. Kaur S, Randhawa K and Shri R: Cognition enhancing ability of a popular green leafy vegetable- Chenopodium album: in-vitro and in-vivo corroboration. Int J Pharm Sci & Res 2023; 14(6): 3128-43. doi: 10.13040/IJPSR.0975-8232.14(6).3128-43.
27. Baldi, A. and Gupta, R. (2013). Effect of Chenopodium Album on Sexual Behavior and Sperm Count in Male Rats. Acta Hortic. 972, 26 DOI:10.17660/ActaHortic.2013.972.2 https://doi.org/10.17660/ActaHortic.2013.972.2
28. Siripurapu KB, Gupta P, Bhatia G, Maurya R, Nath C, Palit G. Adaptogenic and anti-amnesic properties of Evolvulus alsinoides in rodents. Pharmacol Biochem Behav. 2005 Jul; 81(3): 424-32. doi: 10.1016/j.pbb.2005.03.003. PMID: 15899513.
29. Chen, Z.-J.; Yang, Y.-F.; Zhang, Y.-T.; Yang, D.-H. Dietary Total Prenylflavonoids from the Fruits of Psoralea corylifolia L. Prevents Age-Related Cognitive Deficits and Down-Regulates Alzheimer's Markers in SAMP8 Mice. Molecules 2018, 23, 196.
30. Dinesh Dabhadkar and Varsha Zade. Evaluation of the Potential Aphrodisiac Activity of Psoralea corylifolia in Male Albino Rats. Asian Journal of Biomedical and Pharmaceutical Sciences, 2013, 3(22), 18-27.
31. Raut SB, Parekar RR, Jadhav KS, Marathe PA, Rege NN. Effect of Jyotiṣmatī seed oil on spatial and fear memory using scopolamine induced amnesia in mice. Anc Sci Life. 2015 Jan-Mar; 34(3): 130-3. doi:

10.4103/0257-7941.157149. PMID: 26120226; PMCID: PMC4458902.

32. Madhulika Singh, G. N. Verma, Kartar Srivastava (2018). An Assessment of Ant fertility Efficacy of Ethanol Extract of Celastrus Paniculatus Seed in Male Albino Rats. IOSR Journal of Pharmacy and Biological Sciences (IOSR-JPBS), 13(4), 67-72. https://europub.co.uk/articles/-A-395480
33. Calabrese C, Gregory WL, Leo M, Kraemer D, Bone K, Oken B. Effects of a standardized Bacopa monnieri extract on cognitive performance, anxiety, and depression in the elderly: a randomized, double-blind, placebo-controlled trial. J Altern Complement Med. 2008 Jul; 14(6): 707-13. doi: 10.1089/acm.2008.0018. PMID: 18611150; PMCID: PMC3153866.
34. Patel SK, Singh S, Singh HK, Singh SK. Effect of standardized extract of Bacopa monnieri (CDRI-08) on testicular functions in adult male mice. J Ethnopharmacol. 2017 Feb 2; 197: 101-109. doi: 10.1016/j.jep.2016.07.026. Epub 2016 Jul 9. PMID: 27401287.
35. Joshi S (2023) Assessment of Anxiolytic and Anti-Amnestic Activity of Mundi (Sphaeranthus indicus Linn) Whole Plant Extracts in Swiss Albino Mice. J Clin Exp Pharmacol. 13: 365.
36. Nahata A, Dixit VK. Sphaeranthus indicus attenuates testosterone induced prostatic hypertrophy in albino rats. Phytother Res. 2011 Dec; 25(12): 1839-48. doi: 10.1002/ptr.3497. Epub 2011 Apr 19. PMID: 21503998.
37. Nadeem M, Khan MA, Ahmad FJ, Parvez S, Akhtar M, Najmi AK. Exploring the neuroprotective role of Asparagus racemosus (Shatavari) in Alzheimer's disease: mechanisms, evidence, and future directions. 3 Biotech. 2025 Jul; 15(7): 197. doi: 10.1007/s13205-025-04355-w. Epub 2025 May 30. PMID: 40454371; PMCID: PMC12125427.
38. Pandey SK, Sahay A, Pandey RS, Tripathi YB. Effect of Asparagus racemosus rhizome (Shatavari) on mammary gland and genital organs of pregnant rat. Phytother Res. 2005 Aug; 19(8): 721-4. doi: 10.1002/ptr.1590. PMID: 16177978.
39. Thakur, Mayank & Bhargava, Shilpi & Dixit, Vinod. (2009). Effect of Asparagus racemosus on sexual dysfunction in hyperglycemic male rats. Pharmaceutical Biology. 47. 390-395. 10.1080/13880200902755234.
40. Bithu BS, Reddy NR, Prasad SK, Sairam K, Hemalatha S. Prosopis cineraria: a potential nootropic agent. Pharm Biol. 2012 Oct; 50(10): 1241-7. doi: 10.3109/13880209.2012.666253. Epub 2012 Aug 20. PMID: 22906223.
41. Therapeutic Potential of Prosopis Cineraria (Shami) on Male Infertility Against High Dose of Estradiol Induced Swiss Albino Mice. (2024). African Journal of Biomedical Research, 27(4S), 987-996. https://doi.org/10.53555/AJBR.v27i4S.3739
42. Koppula, Sushruta & Choi, Dong-Kug. (2011). Cuminum cyminum extract attenuates scopolamine-induced memory loss and stress-induced urinary biochemical changes in rats: A noninvasive biochemical approach. Pharmaceutical biology. 49. 702-8. 10.3109/13880209.2010.541923.
43. Al-fahdawi, Aeed & Ahmed Aljanabi, Muneef & Ismail, Treefa. (2018). Physiological and histological study of the effect of Cumin Cyminum watery extract and vitamin E on the male reproductive system in rats exposed to oxidative stress. Tikrit Journal of Pure Science. 23. 23-32. 10.25130/tjps.v23i3.496.
44. Wang, Wenwen, Barkat, Muhammad Qasim, Amin, Sehrish, Alshammari, Abdulrahman, Albekairi, Norah A., Manzoor, Hina, Chauhdary, Zunera, Bazmi, Rizwan Rashid, Hussain, Liaqat, Chen, Qin, Pharmacological Appraisal of Aqueous Ethanolic Extract of Cuminum cyminum (Cumin Seeds) in Obesity and Endocrinopathies Associated with Polycystic Ovarian Syndrome in Animal Models, Journal of Food Biochemistry, 2024, 1184854, 17 pages, 2024. https://doi.org/10.1155/jfbc/1184854
45. Mesripour A, Rafieian-Kopaei M, Bahrami B. The effects of Anethum graveolens essence on scopolamine-induced memory impairment in mice. Res Pharm Sci. 2016 Mar-Apr; 11(2): 145-51. PMID: 27168754; PMCID: PMC4852659.
46. Monsefi M, Ghasemi A, Alaee S, Aliabadi E. Effects of Anethum graveolens L. (dill) on Oocyte and Fertility of Adult Female Rats. J Reprod Infertil. 2015 Jan-Mar; 16(1): 10-7. PMID: 25717430; PMCID: PMC4322175.
47. Roy SP, Bundela R, Jain S, Shukla K, Role of Vacha as Neurological and Metabolic Disorders: Evidence from Ethnopharmacology, Phytochemistry, Pharmacology and Preclinical Study, Journal of Drug Delivery and Therapeutics. 2022; 12(6-s): 106-113
48. Muchtaromah, Bayyinatul & Mutiah, Roihatul & Yusmalasari, Desy & Mardyana, Putri & Sharmin, Tanjina & Fadholly, Amaq. (2020). Efficacy of Allium sativum, Curcuma mangga and Acorus calamus Extract Combination on Rat Fertility. Pharmacognosy Journal. 12. 197-203. 10.5530/pj.2020.12.30.
49. Vishwakarma, S., Goyal, R., Gupta, V. et al. GABAergic effect of valeric acid from Valeriana wallichii in amelioration of ICV STZ induced

dementia in rats. Rev. Bras. Farmacogn. 26, 484–489 (2016).
50. Renato, Macedo & Marcos, ocirc & Leonardo, Toshio & Rita, aacute & Vera, Maria & Guerra, Martha. (2016). Abnormality of spermatozoa in Wistar rats exposed to high doses of Valeriana officinalis L. aqueous suspension. Journal of Medicinal Plants Research. 10. 35-46. 10.5897/JMPR2015.5904.
51. Das S, Parveen S, Kundra CP, Pereira BM. Reproduction in male rats is vulnerable to treatment with the flavonoid-rich seed extracts of Vitex negundo. Phytother Res. 2004 Jan; 18(1): 8-13. doi: 10.1002/ptr.1352. PMID: 14750193.
52. Kar TK, Sil S, Ghosh A, Barman A, Chattopadhyay S. Mitigation of letrozole induced polycystic ovarian syndrome associated inflammatory response and endocrinal dysfunction by Vitex negundo seeds. J Ovarian Res. 2024 Apr 8; 17(1): 76. doi: 10.1186/s13048-024-01378-4. PMID: 38589892; PMCID: PMC11000293.
53. Thippeswamy BS, Mishra B, Veerapur VP, Gupta G. Anxiolytic activity of Nymphaea alba Linn. in mice as experimental models of anxiety. Indian J Pharmacol. 2011 Feb; 43(1): 50-5. doi: 10.4103/0253-7613.75670. PMID: 21455422; PMCID: PMC3062121.
54. Cai J, Cai M, Xia W, Jiang L, Song H, Chen X. Explore the Mechanism of β-Asarone on Improving Cognitive Dysfunction in Rats with Diabetic Encephalopathy. J Alzheimers Dis Rep. 2022 Apr 19; 6(1): 195-206. doi: 10.3233/ADR-220001. PMID: 35591951; PMCID: PMC9108628.

Cite this article as:
C. Indu Priyanka, K. Madhusudana Rao, T. Jyotsna Kumari, Rathour Yamini Diwakar, T. Leela Rani. Revisiting Medhya Dravyas of Kaiyyadeva Nighantu: A Textual Analysis with Neuropharmacological and Gender Specific Insights. International Journal of Ayurveda and Pharma Research. 2026;14(4):135-146.
https://doi.org/10.47070/ijapr.v14i4.4110
Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**
Dr. C. Indu Priyanka
PG Scholar
Department of Dravya Guna
Dr.NRS Government Ayurvedic College, Vijayawada, Andhra Pradesh.
Email: indukrishnan55@gmail.com