



## THERAPEUTIC EFFICACY OF MEDHA PLUS™ AN AYURVEDIC MEDICINE IN GERIATRIC DEMENTIA: A PROSPECTIVE INTERVENTIONAL CASE SERIES

### Ayurveda

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### ABSTRACT

**Background:** Dementia remains a formidable clinical challenge, frequently exacerbated by comorbid vascular and metabolic conditions in aging populations. This clinical series examined the real-world therapeutic utility, trajectory, and safety profile of Medha Plus™—a standardized Ayurvedic polyherbal formulation—administered as an adjuvant therapy in elderly patients presenting with cognitive decline. **Case Presentation:** Ten hospitalized patients (n = 10; 6 males, 4 females; mean age: 70.7±5.1 years) meeting diagnostic criteria for mild-to-moderate dementia (baseline Mini-Mental State Examination or MMSE score < 24) along with hypertension, type 2 diabetes mellitus (T2DM) and hypercholesterolemia were evaluated. Participants received Medha Plus™ (10 mL twice daily) for 12 weeks alongside tailored Ayurvedic regimens for metabolic control. Cognitive performance, blood pressure (BP), fasting blood sugar (FBS) and total serum cholesterol (CHO) were measured at baseline and post-treatment. Following 12 weeks of treatment, participants demonstrated a significant improvement in global cognitive function, with average MMSE scores rising from 18.70±1.94 at baseline to 23.20±1.87, a 24.06% increase in cognitive performance. Co-administered metabolic therapies successfully stabilized BP, FBS and CHO. Patients also experienced functional recovery in clinical symptoms, reporting less fatigue, improved appetite and better sleep. **Conclusion:** Adjuvant therapy with Medha Plus™ was well tolerated and associated with meaningful improvements in cognitive performance and overall functional well-being in geriatric patients navigating dementia and metabolic comorbidities. These preliminary findings warrant further investigation in larger, controlled clinical trials.

### KEYWORDS

Dementia; Cognition; Mini-Mental State Examination; Ayurveda; Herbs; Case Series

### INTRODUCTION

Dementia is a debilitating clinical syndrome characterized by the progressive erosion of memory, executive processing and spatial orientation. Beyond cognitive loss, patients often experience emotional dysregulation and behavioural shifts that add significantly to the caregiving burden.<sup>[1]</sup> As populations age worldwide, dementia has become one of the leading drivers of disability and mortality in older adults. Over 50 million individuals currently live with dementia globally, a figure projected to triple to 152 million by 2050.<sup>[2]</sup> Systemic vascular and metabolic risk factors—such as chronic hypertension, poor glycemic control, dyslipidemia and obesity—accelerate dementia.<sup>[3]</sup> Current conventional options, including cholinesterase inhibitors (donepezil, rivastigmine) and NMDA receptor antagonists (memantine), primarily offer modest symptomatic relief rather than profound disease modification.<sup>[4]</sup> This gap has driven growing interest in integrative, multi-target approaches derived from traditional medical systems.

In Ayurvedic medicine, botanical formulations classified as *Medhya Rasayana* (nootropics) have long been utilized to support memory (*Smriti*) and intellect (*Buddhi*).<sup>[5]</sup> Main active herbs such as *Bacopa monnieri*, *Centella asiatica* and *Zingiber officinale* contain bioactive compounds capable of suppressing neuroinflammation, mitigating oxidative stress, protecting mitochondrial function, and inhibiting acetylcholinesterase.<sup>[6-8]</sup> Medha Plus™ (M/s Parker Robinson Pvt. Ltd., Kolkata) brings these traditional *Medhya* botanicals together in a standardized formulation.<sup>[9]</sup> Preclinical models indicate that Medha Plus™ protects neurons against stress-induced damage, restores mitochondrial bioenergetics and improves learning acquisition.<sup>[10]</sup> This clinical case series documents the clinical outcomes and functional changes observed when Medha Plus™ was added to the treatment plan of elderly patients facing both cognitive decline and metabolic disease.

### Patient Information

A cohort of ten elderly adults with cognitive impairment and metabolic comorbidities were studied. This was a compilation of case reports (from January to October, 2025) from elderly patients treated at J.B. Roy State Ayurvedic Medical College and Hospital in Kolkata, India, with written authorization from their Legally Authorized Representative.

### Timeline

The clinical study was conducted at the Department of *Kayachikitsa* (Internal Medicine), J.B. Roy State Ayurvedic Medical College and Hospital, Kolkata from January to October 2025.

### Clinical Findings and Diagnostic Assessments

An evaluation of ten conscious senior patients (6 males, 4 females), with an average age of 70.7 years, who reported with clinical cognitive deficit, dementia, and sleep disturbances, as well as related comorbidities such as hypertension, T2DM and hypercholesterolemia. Cognitive impairment was quantified using the MMSE, a 30-point standardized tool utilized for dementia screening wherein scores of 18–23 indicate mild-to-moderate impairment and scores ≤17 reflect severe cognitive impairment.<sup>[11]</sup> The blood pressure (BP), fasting blood sugar (FBS), and total cholesterol (CHO) were evaluated. Below are the individual clinical summaries (Table 1).

### Therapeutic Intervention

The investigational Ayurvedic formulation, Medha Plus™ was administered as an add-on therapy alongside standard individualized Ayurvedic treatment regimens for a total duration of 12 weeks. Participants ingested Medha Plus™ at a dosage of 10 mL twice daily, postprandial. Concurrent metabolic and cardiovascular comorbidities were managed using the following standard Ayurvedic pharmacotherapy: (i) Antihypertensive Regimen: Hypertension was managed using *Prabhakar Vati* (250 mg) and *Nagarjunabhra Ras* (125 mg) administered orally twice daily. (ii) Antidiabetic Regimen: Glycemic control was achieved using either *Chandraprabha Vati* (500 mg twice daily, postprandial) or a combination of *Madhunasini* (2 g) and *Gulanha* (*Tinospora cordifolia*, 2 g) administered twice daily preprandially. In cases requiring escalated glycemic management, *Vasanti Kusumakar Ras* (125 mg twice daily) was co-administered. (iii) Hypolipidemic Regimen: Dyslipidemia was treated with *Shuddha Guggulu* (3 g) and *Medohara Guggulu* (500 mg) administered orally twice daily.

### Follow-up Outcomes

Upon completion of the 12-week therapeutic intervention, all baseline parameters—including Mini-Mental State Examination (MMSE) scores, blood pressure (BP), fasting blood sugar (FBS) and total cholesterol (CHO)—were re-evaluated to assess treatment efficacy and disease modulation (Table 2).

**Cognitive Function:** A longitudinal increase in global MMSE scores was observed across the cohort, indicating measurable improvements in temporal orientation, immediate recall and executive attention skills following add-on therapy with Medha Plus™.

**Cardiometabolic Parameters:** Co-administered Ayurvedic therapies yielded consistent improvements in metabolic end-points, characterized by reductions in systolic and diastolic blood pressure, stabilization of fasting blood glucose levels and lower total serum cholesterol concentrations relative to baseline measurements.

**Somatic and Quality-of-Life (QoL) Metrics:** Patients reported secondary therapeutic benefits, including reduced somatic fatigability, resolution of generalized debility, restoration of normal appetite patterns, and qualitative improvements in sleep quality.

Table 1. Baseline Clinical Findings

| Patient No. | Gender | Age | BMI (kg/m2) | MMSE Score |
|-------------|--------|-----|-------------|------------|
| 1           | Male   | 75  | 28.4        | 16         |
| 2           | Male   | 72  | 29.3        | 22         |
| 3           | Male   | 79  | 27.5        | 18         |
| 4           | Female | 70  | 27.8        | 17         |
| 5           | Male   | 67  | 26.9        | 20         |
| 6           | Male   | 68  | 27          | 21         |
| 7           | Female | 66  | 26          | 18         |
| 8           | Male   | 70  | 31.6        | 18         |
| 9           | Female | 68  | 28.2        | 20         |
| 10          | Female | 72  | 27.4        | 17         |

DISCUSSION

In this clinical case series, adding Medha Plus™ to a comprehensive Ayurvedic treatment plan was associated with a significant increase in MMSE scores over 12 weeks (Fig 1). Improvements were particularly evident in short-term recall, temporal orientation and working memory tasks. These observations align with what we know about the active constituents of Medha Plus™. Bioactive compounds such as bacosides from *Bacopa monnieri* support synaptic plasticity, boost cerebral perfusion, and protect neurons against oxidative stress.<sup>[8,12]</sup> Triterpenes in *Centella asiatica* help soothe neuroinflammation,<sup>[6]</sup> while active constituents in *Zingiber officinale* inhibit acetylcholinesterase, helping maintain acetylcholine levels essential for memory processing.<sup>[7]</sup>

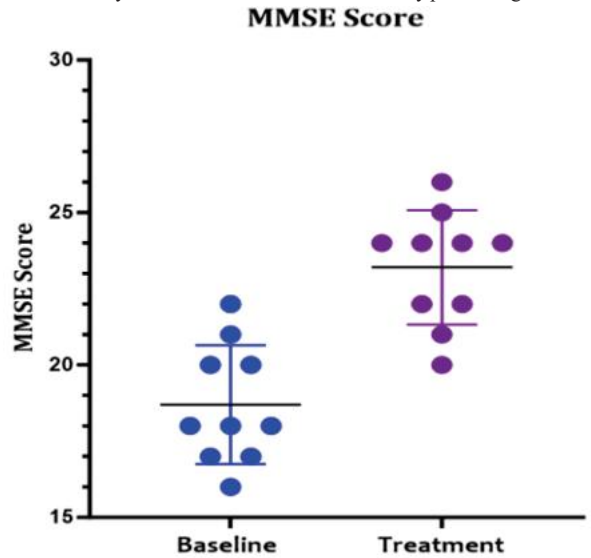


Fig 1. Medha Plus™ on MMSE Score

Table 2. Medha Plus™ on Dementia Participants

| P. No. | BP (mmHg) | FBS (mg/dl) | CHO (mg/dl)     | MMSE Score |
|--------|-----------|-------------|-----------------|------------|
| 1      | 180/100   | 148/88      | 180 135 310 220 | 16 20      |
| 2      | 174/94    | 136/90      | 160 120 280 190 | 22 25      |
| 3      | 166/98    | 130/86      | 190 128 360 228 | 18 24      |
| 4      | 170/96    | 144/92      | 170 130 250 188 | 17 22      |
| 5      | 178/90    | 138/90      | 165 110 270 175 | 20 24      |
| 6      | 160/98    | 130/88      | 180 125 230 190 | 21 26      |
| 7      | 168/90    | 132/86      | 175 132 320 215 | 18 24      |

|    |         |        |                 |       |
|----|---------|--------|-----------------|-------|
| 8  | 172/94  | 140/90 | 160 115 242 205 | 18 22 |
| 9  | 180/100 | 144/92 | 140 110 280 230 | 20 24 |
| 10 | 176/98  | 148/90 | 160 120 250 210 | 17 21 |

All treatment was continued for three months. For dementia assessment, the MMSE score was determined using the Mini-Mental State Examination. An MMSE score ≥ 24 indicated normal.

Furthermore, preclinical work by Paidi et al. (2022) confirms that Medha Plus™ helps preserve mitochondrial energy production and shields cortical cells from stress-induced apoptosis.<sup>[10]</sup> At the same time, managing underlying vascular risk factors—hypertension, elevated blood sugar, and high cholesterol was likely a key factor in these outcomes. Poor metabolic health compromises microvascular integrity in the brain, accelerating cognitive decline. By stabilizing these systemic parameters alongside nootropic support, the combined regimen created a far more favourable environment for cognitive recovery.

Study Considerations

**Strengths:** Use of Medha Plus™ with a validated psychometric scale (MMSE), concurrent monitoring of metabolic markers, and excellent patient compliance without adverse effects.

**Limitations:** Small cohort size, open-label design, absence of a placebo control group and lack of long-term follow-up after treatment cessation to evaluate how long cognitive gains persist.

CONCLUSION

In this 10-patient clinical case series, adjuvant therapy with Medha Plus™ alongside metabolic management led to measurable gains in cognitive performance, better control of cardiovascular risk factors, and clear improvements in sleep, appetite, and energy levels. These results highlight Medha Plus™ as a safe, promising complementary option for supporting brain health in older adults. However, larger double-blind randomized controlled trials are needed to confirm efficacy, explore long-term benefits, and map out its neuroprotective mechanisms.

Patient's Perspective

Medha Plus™ significantly improved subjective well-being and functional capacity. Baseline symptoms of cognitive impairment, anorexia, and severe tiredness were followed by normalized appetite regulation and a significant decrease in fatigability. Furthermore, objective cognitive recovery provided significant psychological reassurance to participants, reducing anxiety about the course of their underlying metabolic illnesses.

Declaration of Patient Consent

The authors confirm that written consent was obtained from each patient's Legally Authorized Representative (LAR) prior to enrolment.

Adverse and Unanticipated Events

No adverse and anticipated events were reported.

Conflicts of Interest

There were no conflicts of interest.

Declaration of Adherence to CARE/ICMJE/COPE Standards:

The authors declare that this case series was prepared and reported in accordance with CARE guidelines. The manuscript follows the International Committee of Medical Journal Editors (ICMJE) recommendations as well as the Committee on Publication Ethics' (COPE) ethical criteria.

Declaration of Generative AI:

The authors state that the manuscript was written without the aid of generative artificial intelligence techniques. The author drafted and reviewed all of the content, including text generation, data analysis, and references, without the use of artificial intelligence tools.

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