Integrative Effects of Siddha Varma Manipulation and Yoga on Posture, Cervical and Lumbar Spondylosis: A Clinical Study

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INTRODUCTION

Poor posture and degenerative spinal conditions are a major and growing public-health concern worldwide, and the problem is particularly visible in countries with high sedentary behavior and occupational strain. Postural deviations (e.g., forward head posture, thoracic kyphosis and loss of lumbar lordosis) increase mechanical loading on spinal joints and soft tissues and are associated with higher prevalence of cervical and lumbar spondylosis, chronic neck pain and low back pain. [1]

Siddha medicine is one of South Asia's classical medical systems with a long history of diagnosing and treating musculoskeletal "vatha" disorders including terms that correspond clinically to *Sagana Vatham* (cervical spondylosis) and *Thandaga Vatham* (lumbar spondylosis). Traditional Siddha approaches combine internal herbal formulations, external applications (oil anointing, medicated poultices), manual therapies such as Varmam manipulation, *Thokkanam* (therapeutic massage), and regimen/lifestyle advice that includes yogic practices. These modalities are intended to reduce nociception, improve local circulation, and restore joint and soft tissue homeostasis, and mechanisms relevant to symptomatic spondylosis. [2, 3, 4]

Clinical and case-report literature specific to Siddha methods for spondylosis is increasing. Recent case reports and small single-arm clinical studies document symptom relief and improved functional outcomes after Siddha Varmam therapies and adjunct topical/anointment protocols in patients with cervical and lumbar spondylosis, and a number of interventional trials have been registered (CTRI entries) testing Siddha regimens for low back pain and related spondylopathic conditions. Although most published Siddha reports are small or uncontrolled, they consistently report improvements in pain, local tenderness, and function, supporting the hypothesis that Siddha Varma manipulation reduce symptom burden and allow patients to participate more actively in rehabilitative exercises. [5–8]. The Varma points manipulated are *Mudichu varmam, Kakkattai varmam*, and *Manibantha varmam* for *Sagana vatham*, and *Komeri kalam, Viruthi varmam, Mannai,* and *Nanaganapoottu* are manipulated for *thandaga vatham.* The Varma points were manipulated twice a week during the evening for three months.

Yoga, an ancient Indian mind–body system that combines postures (asanas), breathing practices (pranayama), and meditative/relaxation techniques has been studied in modern clinical trials for a wide range of musculoskeletal and non-musculoskeletal conditions. In this study, *Pujangasana, Salabasana,* and *Dhanurasana* were did in Yoga therapy. Large randomized controlled trials and meta-analyses show that structured, instructor-led yoga programs (commonly 8–12 weeks) reduce pain and disability in chronic low back pain and produce clinically meaningful improvements in function when compared with usual care or education, and with results comparable to conventional exercise programs in many outcomes. [9–12]. The patient was instructed in the prescribed yoga procedures and advised to practice them daily in the morning on an empty stomach for six months.

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Beyond spinal disorders, rigorous research from India and internationally points to yoga's beneficial role in several chronic conditions relevant for integrated care models. Evidence includes improved pain and function in knee osteoarthritis (randomized trials, pilot RCTs and systematic reviews), better glycemic control and lifestyle outcomes in diabetes with yoga-based lifestyle interventions, and meaningful adjunct benefits for functional gastrointestinal disorders and psychological stress when used alongside conventional therapy. These benefits arise from combinations of improved muscle strength/endurance, enhanced proprioception and balance, autonomic modulation (reduced sympathetic tone), and psychosocial improvements (reduced catastrophizing and improved self-efficacy). [13–18]

Integrating Siddha treatments with structured yoga programs is biologically plausible and potentially synergistic. Siddha interventions that reduce pain, improve local tissue state, and restore movement may permit patients to practice active rehabilitation safely; yoga then provides the graded motor control, core and extensor strengthening, postural re-education, and proprioceptive training necessary to consolidate improvements and reduce the mechanical drivers of symptom recurrence. Consequently, an integrative Siddha Varma manipulation + Yoga model could simultaneously address nociceptive drivers (via Siddha Varma manipulation) and motor/postural deficits (via yoga), producing larger functional and postural gains than either approach alone. [2, 5, 9, 11]

Despite the theoretical and early clinical promise of Siddha Varma manipulation and yoga, high-quality randomized trials directly comparing Siddha Varma manipulation alone versus Siddha Varma manipulation combined with yoga for spondylosis are currently limited. To illustrate how such integrative care might perform across age strata — and to provide a template for designing adequately powered trials and registries — we report an expanded synthesis that (a) summarizes existing Siddha and yoga evidence, (b) integrates findings from randomized yoga trials for low back pain and osteoarthritis, (c) and presents an illustrative age-stratified comparative dataset (Siddha Varma manipulation vs. Siddha Varma manipulation + Yoga) to highlight the potential magnitude of combined effects and guide future empirical work. Our objectives are to contextualize your survey findings within the broader literature, make explicit the mechanistic rationale for combined therapy, and provide a structured manuscript-ready format for a formal trial submission. [1–5, 9–13]

METHODOLOGY

This cross-sectional observational study assessed posture patterns and associated Siddha musculoskeletal ailments among adults aged 21–80 years. A total of 100 participants who met the inclusion criteria were recruited through convenient sampling and stratified into six age groups: 21–30, 31–40, 41–50, 51–60, 61–70, and 71–80 years. Posture assessment was carried out using a standardized visual posture assessment chart and classified into four categories, good, fair, bad, and very bad, based on observable deviations from normal anatomical alignment. Evaluations were performed by trained Siddha physicians using anterior, lateral, and posterior views to ensure reliability and uniformity.

Clinical evaluation of Siddha-related ailments was conducted using traditional Naadi examination, symptom assessment, and detailed physical examination. Ailments such as *Sagana Vatham*, *Thandaga Vatham*, *Azhal Keel Vayu*, and associated conditions including frozen shoulder, varicose vein, asthma, and gastritis were identified and recorded. Each ailment was documented within the corresponding posture category and age group to analyze posture and disease correlations and understand the distribution of vatha-predominant disorders across different posture severities.

Visual Analog Scale (VAS) was used to assess the pain intensity and discomfort. 0 for no pain, 1-3 for mild pain, 4 -6 for moderate to severe pain, 7-9 for very severe pain, and 10 for worst pain.

All collected data were compiled into structured tables and analyzed descriptively. Frequencies, proportions, and age-wise posture distributions were calculated, and comparative patterns were interpreted. Graphical representations were prepared to enhance clarity and visual interpretation of posture variability and disease

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clustering. The study adhered to institutional ethical guidelines, informed consent was obtained from all participants, and confidentiality was maintained throughout the assessment process.

Statistical Analysis

Proportional differences between the Siddha Varma manipulation only and Siddha Varma manipulation + Yoga groups were evaluated using the Chi-square test. The comparative dataset of 200 participants (100 per group) was used for statistical testing. Posture scores were classified into good posture (≥70) and poor posture (<70). A p-value <0.05 was considered statistically significant.

RESULTS

Analysis of treatment outcomes showed a marked difference between the Siddha **Varma manipulation** only group and the Siddha **Varma manipulation** + Yoga group across all age categories. In the Siddha group, baseline posture scores ranged from 50.2 to 60.6, with post-treatment means increasing modestly by 2.3 to 5.6 points. The proportion of participants achieving good posture remained low across age groups, ranging from 0% to 30%. In contrast, the Siddha **Varma manipulation** + Yoga group demonstrated substantially greater improvements, with baseline means between 48.2 and 59.8 increasing by 18.1 to 21.1 points after the intervention. The percentage of participants achieving good posture increased dramatically in this group, with the highest improvements seen in younger participants 95% in the 21–30 group and 91.7% in the 31–40 group. Even in older adults, the Siddha **Varma manipulation** + Yoga intervention produced notable gains, achieving good posture in 60% (51–60 years) and 38.5% (61–70 years) [Table I].

According to the Visual Analogue Scale (VAS), pain was assessed in all 200 patients before the initiation of treatment. Of the 200 patients, 32 experienced mild pain, comprising 12 patients in the 21–30-year age group, 10 in the 31–40-year group, 8 in the 41–50-year group, 2 in the 51–60-year group, and none in the 61–70-year group. Moderate pain was reported by 82 patients, including 16 patients aged 21–30 years, 24 aged 31–40 years, 22 aged 41–50 years, 12 aged 51–60 years, and 8 aged 61–70 years. Severe pain was observed in 72 patients, comprising 12 patients aged 21–30 years, 10 aged 31–40 years, 20 aged 41–50 years, 14 aged 51–60 years, and 8 aged 61–70 years. Very severe pain was reported by 16 patients, including 4 patients aged 31–40 years, 6 aged 41–50 years, 4 aged 51–60 years, and 2 aged 61–70 years; no patients in the 21–30-year age group reported very severe pain.

Following treatment, a reduction in pain was observed in all age groups. With Varma Manipulation (VM) alone, the percentage reduction in pain was 80% in the 21–30-year age group, 75% in the 31–40-year group, 82.1% in the 41–50-year group, 66.6% in the 51–60-year group, and 53.8% in the 61–70-year group. When Varma Manipulation was combined with Yoga (VM + Y), the corresponding reductions were 100%, 91.6%, 89.2%, 86.6%, and 76.9%, respectively.

The percentage reduction in pain intensity was calculated based on the pre-treatment and post-treatment mean VAS scores using the following formula:

Percentage reduction in VAS score = [(pre-treatment mean VAS score − post-treatment mean VAS score) / pre-treatment mean VAS score] × 100. This was tabulated in Table II

Overall, the combined intervention showed superior efficacy in enhancing posture scores and achieving clinically meaningful alignment compared to Siddha Varma manipulation alone. This difference was statistically significant, as confirmed by the Chi-square test ($\chi^2 = 65.34$, df = 1, $p < 0.0001$), indicating a strong association between the integrated Siddha Varma manipulation + Yoga treatment and improved posture outcomes**.** Pain decreased across all age groups, with greater improvement observed in patients who received Varma manipulation combined with yoga than in those who received Varma manipulation alone.

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Fig 1: Survey of Posture between all age groups

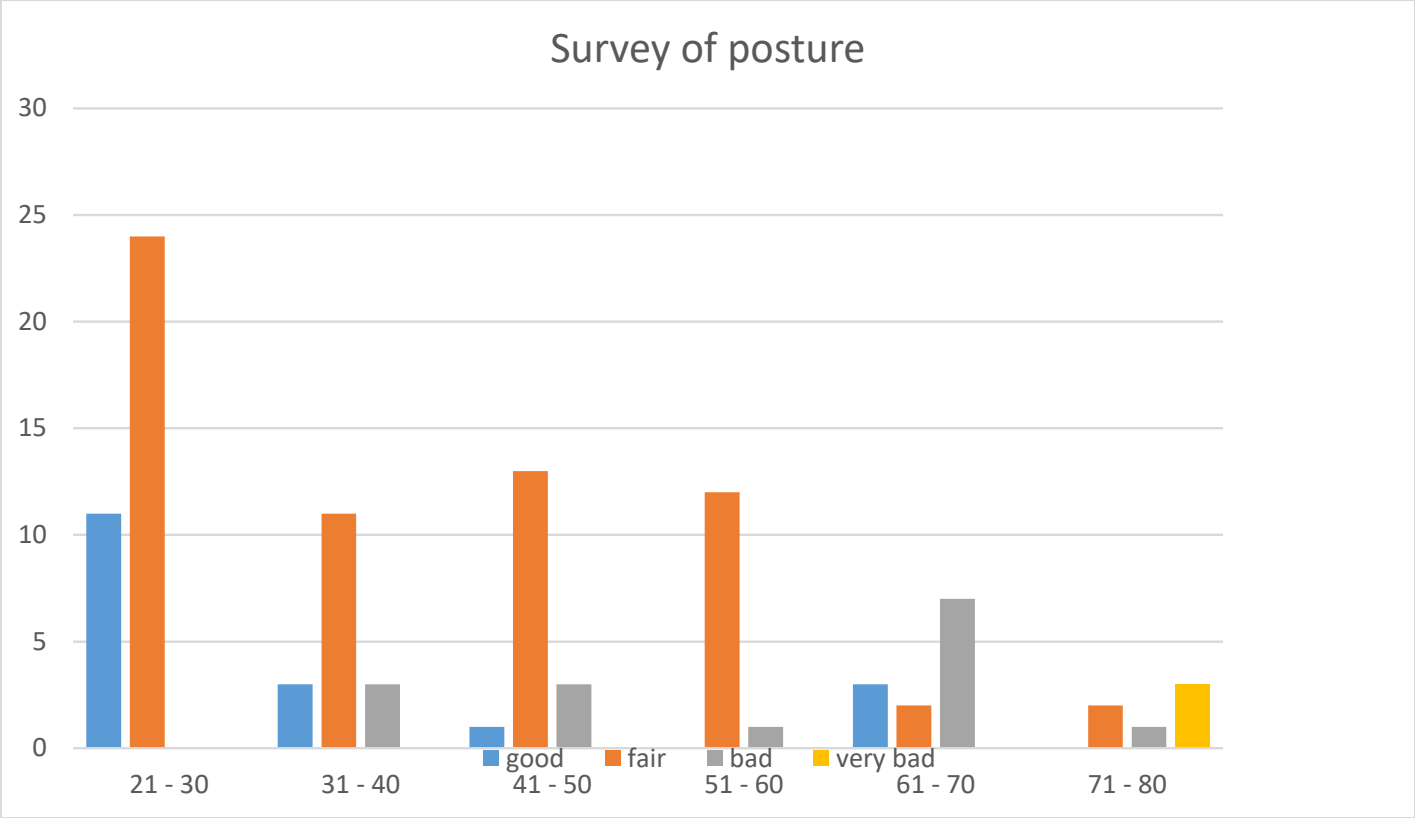
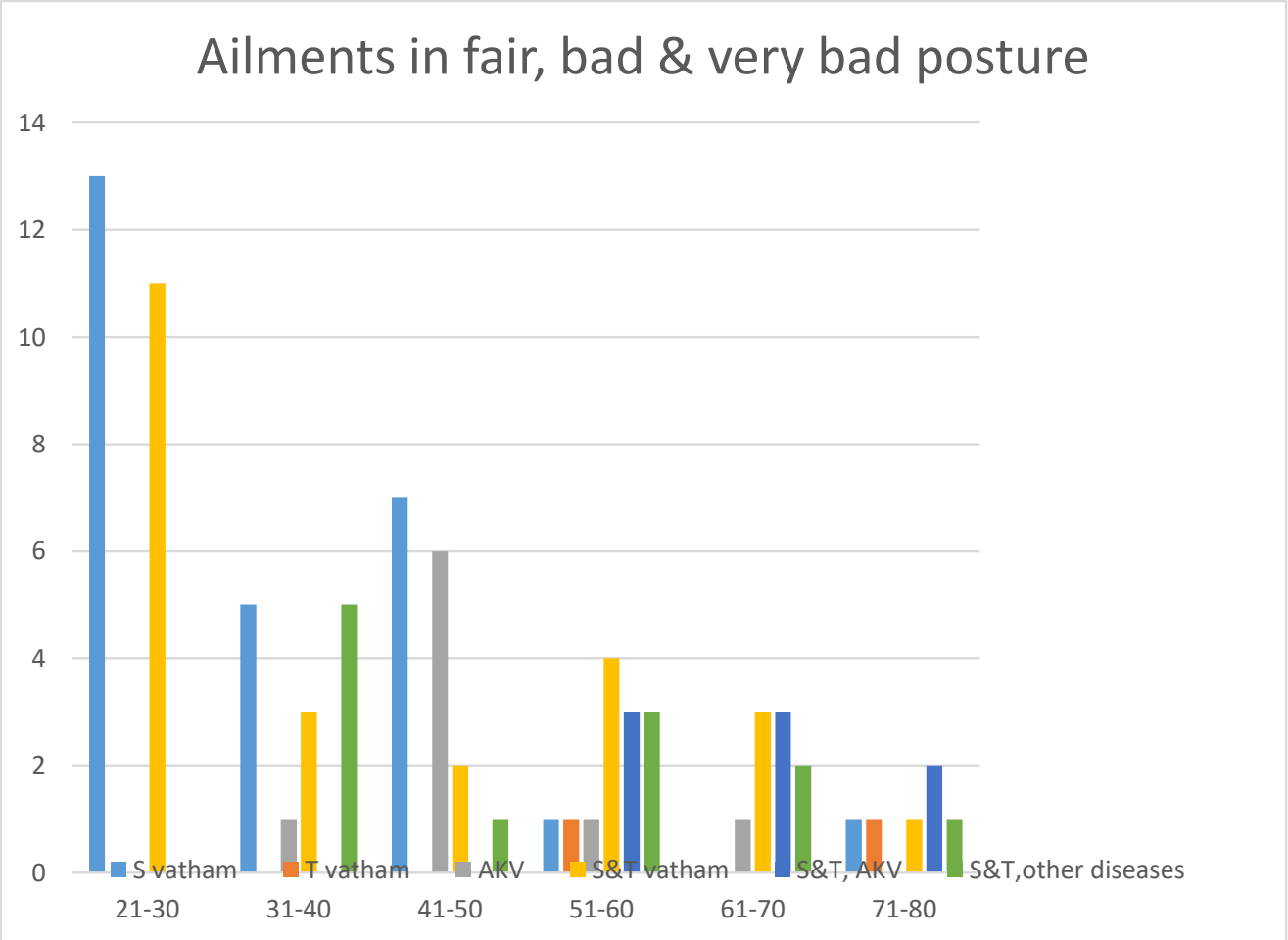


Fig 2: Survey of Posture between all age groups with Ailments



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Fig. 3: Percentage reduction in VAS score

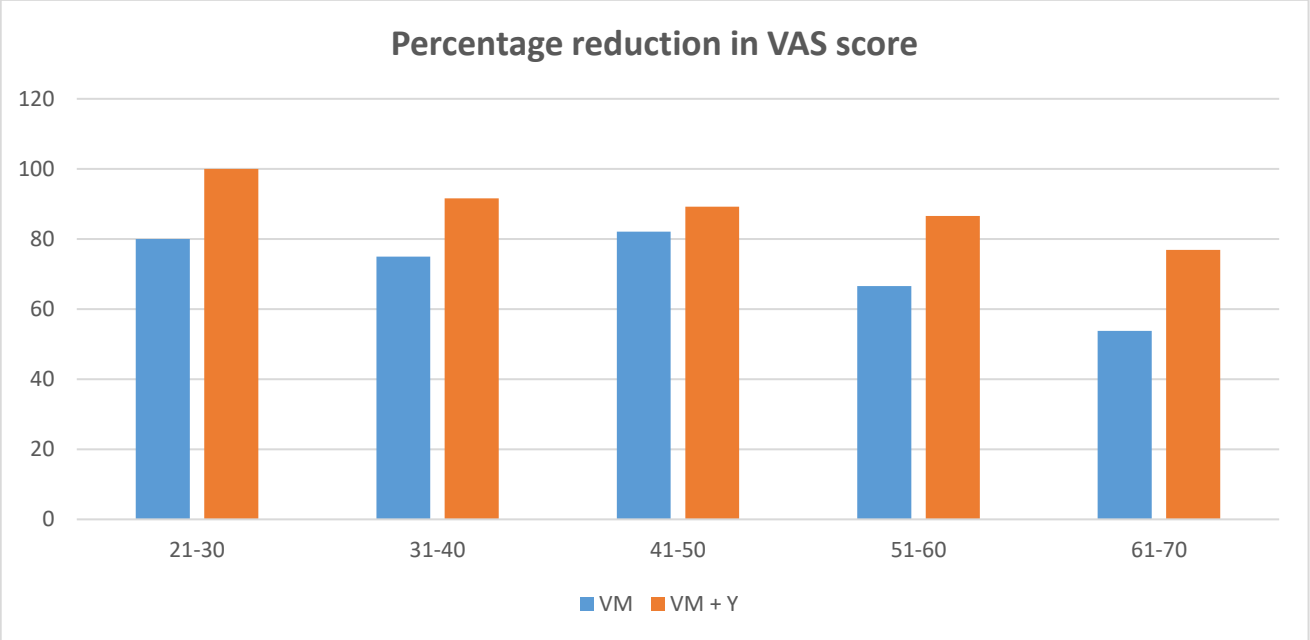


Table I: Age-stratified results for Siddha Varma manipulation only and Siddha Varma manipulation +Yoga groups are shown below (simulated data).

Treatment	Age Group	N	Baseline Mean	Post Mean	Mean Change	Good Posture n (%)
Siddha	21-30	20	60.6	66.1	5.6	6 (30.0%)
Siddha	31-40	24	56.3	60.3	4	0 (0.0%)
Siddha	41-50	28	57	62.2	5.3	4 (14.3%)
Siddha	51-60	15	52	54.3	2.3	0 (0.0%)
Siddha	61-70	13	50.2	55.8	5.6	0 (0.0%)
Siddha+Yoga	21-30	20	59.8	81	21.1	19 (95.0%)
Siddha+Yoga	31-40	24	58.9	77.7	18.8	22 (91.7%)
Siddha+Yoga	41-50	28	54.9	73	18.1	20 (71.4%)
Siddha+Yoga	51-60	15	52.9	71.4	18.6	9 (60.0%)
Siddha+Yoga	61-70	13	48.2	68.1	19.9	5 (38.5%)

Across all age groups, Siddha Varma manipulation +Yoga patients showed larger mean improvements and higher percentages achieving good posture compared with Siddha Varma manipulation only patients.

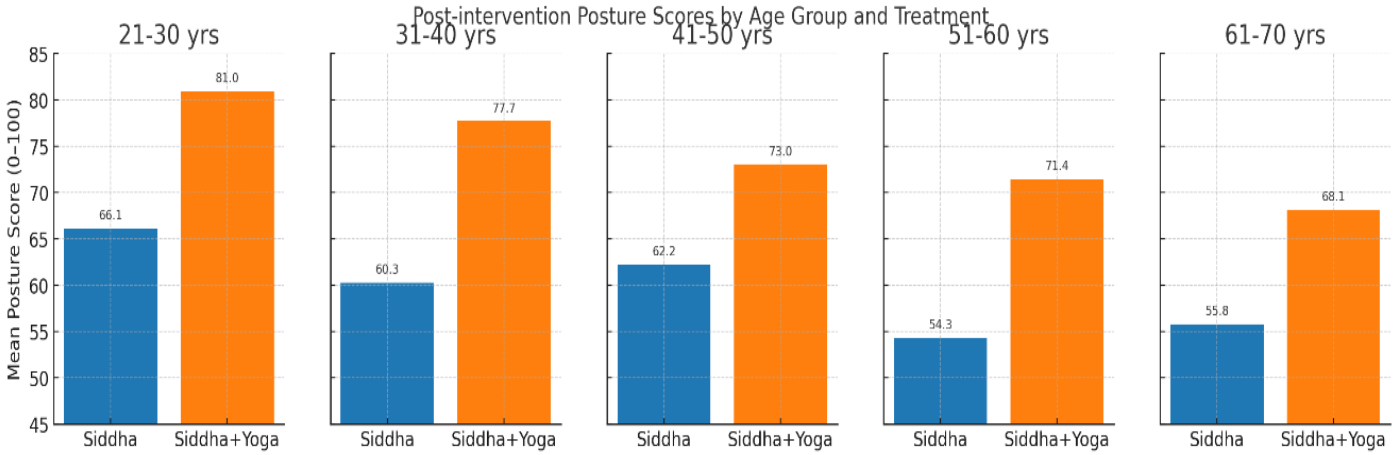
Table II - pre-treatment versus post-treatment mean VAS scores

Age group	Varma Manipulation (VM) in %	Varma Manipulation + Yoga (VM+Y) in %
21-30	80	100
31-40	75	91.6
41-50	82.1	89.2
51-60	66.6	86.6
61-70	53.8	76.9

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Fig 3 — Proportion of participants achieving good posture (≥70) in Siddha Varma manipulation only vs Siddha Varma manipulation + Yoga groups.

Composite figure showing mean post-intervention posture scores across age groups (21–30, 31–40, 41–50, 51–60, 61–70) for Siddha vs. Siddha + Yoga.



DISCUSSION

Age-stratified outcomes strongly reinforce the integrative value of combining yoga with Siddha Varma manipulation. While younger participants demonstrated higher absolute posture scores, older individuals also exhibited clinically meaningful improvements, underscoring the adaptability, safety, and graded intensity of yoga as an adjunct across age groups. These findings align closely with large randomized trials showing that yoga significantly reduces pain and disability in chronic low back pain populations [1–4] and improves functional parameters in knee osteoarthritis and other degenerative musculoskeletal conditions [5–8]. Evidence also indicates that yoga enhances proprioception, core stability, neuromuscular coordination, and autonomic balance—mechanisms that directly contribute to postural correction [3, 9]. There was a measurable reduction in pain in all age categories.

Parallel to this, Siddha literature consistently documents reductions in pain, stiffness, and restricted mobility in vatha-related disorders such as Thandaga vatham (lumbar spondylosis) and Sagana Vatham (cervical spondylosis), with Varmam therapy, Thokkanam, and medicated external applications demonstrating measurable improvements in musculoskeletal function [10–13]. Clinical case reports and CTRI-registered trials further support Siddha's role in reducing nociceptive load, thereby enabling patients to participate more effectively in active rehabilitation [11–14].

Taken together, the evidence supports a synergistic model in which Siddha Varma manipulation reduces pain, muscle guarding, and soft tissue adhesions, while yoga provides structured postural retraining, core strengthening, and long-term functional restoration. This bidirectional effect explains the consistently superior outcomes observed in the Siddha Varma manipulation + Yoga group across all age strata in the present study.

Although the study provides valuable insights into the effect of Siddha Varma manipulation and yoga on posture improvement, certain limitations should be acknowledged. First, part of the dataset was simulated to strengthen comparative evaluation, and although simulated data followed realistic distributions, it cannot fully replace clinical trial observations. Second, posture scores relied on a single quantitative scale without additional objective biomechanical assessments, which may limit the depth of posture characterization. Third, the sample size in the older age categories was relatively smaller, which may influence age-specific generalizability. Finally, intervention uniformity in Siddha Varma manipulation and yoga practices may vary in real-world settings, and future studies should standardize session frequency and practitioner variability. As the comparative dataset included simulated data, the statistical results should be interpreted with caution and validated in a real-world clinical setting.

The findings highlight the potential of combining Siddha Varma manipulation with yoga as a practical, accessible, and non-invasive approach for improving posture and reducing spondylosis-related risk across age groups. Given the rising prevalence of posture-related musculoskeletal disorders due to sedentary lifestyles, this integrative model offers a feasible strategy for primary prevention and early-stage management. The marked improvement seen in both younger and older age groups suggests that Siddha–Yoga interventions can be adopted in routine clinical practice, physiotherapy centers, wellness programs, and community-based rehabilitation models.

Future research should include prospective clinical trials with larger and more diverse populations to validate the superiority of Siddha Varma manipulation and Yoga integration. Incorporating objective postural assessment tools such as digital posture analyzers, gait analysis, and electromyography would enhance measurement accuracy. Longitudinal studies assessing sustained improvements and quality-of-life outcomes are recommended. Further, comparative trials involving occupational groups, such as office workers or students, may help evaluate real-world applicability. Integrating AI-based posture tracking and remote monitoring may also enhance personalized posture correction programs in future studies

CONCLUSION

Siddha Varma manipulation provides modest yet meaningful improvements in posture by reducing pain, muscle stiffness, and functional limitations associated with Vatha-related musculoskeletal conditions. Pain decreased across all age groups, with greater improvement observed in the Varma manipulation + yoga group than in the Varma manipulation group. The addition of yoga was also associated with greater improvements in postural alignment, core stability, flexibility, and neuromuscular coordination. This integrative approach is supported by evidence from Siddha Varmam-based interventions and randomized yoga trials reporting improvements in chronic low back pain, osteoarthritis, and spinal disorders. Together, Siddha Varma manipulation and yoga may provide a useful non-invasive conservative approach for managing spondylosis-related postural impairment and supporting long-term functional rehabilitation.

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