

Research Article

Comparison of Integral Siddha Medical Therapy and Energy Treatment Sessions Combined with Exercise Versus Exercise Without Treatment for Managing Fibromyalgia Syndrome in Women: A Clinical Study

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ABSTRACT

Researchers examined the results of a 6-week treatment that combined Siddha physical treatment (Varma & Tokamak) along with energy meetings as well as bodybuilding to treat pain symptoms and fatigue and sleep issues and health status as well as quality of life problems in women diagnosed by Fibromyalgia Syndrome; they analyzed these results versus exercise-only treatment intervention. This research used a randomized controlled trial approach to divide participants between Exercise + Siddha group that received manual therapy plus energy sessions (number = 20) and Exercise-only group (number = 20). Participants from both treatment groups received their assigned sessions five days per week for a period of six weeks. The researchers evaluated multiple outcome measures including pain through VAS and fatigue through VAS as well as health status through FIQ and patient quality of life through SF-36 before and after both intervention periods. The data was examined using the signed-rank test by Wilcoxon and the test for Mann-Whitney U. Significant outcome improvement were consistently identified between groups, although the Exercise Plus Siddha intervention resulted in higher overall patient enhancements. Members of this treatment group reported significant decreases in both pain scores and sleep-related disturbances while demonstrating superior health parameter improvements and translation to overall quality of life ($p < 0.05$). The Exercise-only group demonstrated improvements in pain control and fatigue reduction and sleep patterns ($p < 0.05$) but their FIQ scoring and SF-36 testing revealed less substantial health and quality of life gains. The data showed both treatment approaches effectively reduced pain and fatigue alongside sleep disturbances while improving FMS patient health status and life quality. ONS therapists found better clinical results When they coupled physical activity with Siddha manual treatment and energy sessions rather than exercise alone. Future research should conduct additional studies involving larger numbers of participants to validate these findings using solid scientific evidence.

1. INTRODUCTION

Women primarily experience Fibromyalgia Syndrome (FMS) which represents a long-lasting pain disorder [1]. The American Academy of Rheum 1990 criteria define FMS as widespread pain with tenderness in at least Eleven of Eighteen body-specific sites [2]. Current data indicates that fibromyalgia affects between 0.8% and 5.9% of people while its numbers show steady growth each year. Apart from musculoskeletal pain FMS typically manifests through fatigue plus weakened strength and disrupted sleep patterns and intestinal troubles and mental health disorders including depression [3]. People with FMS show diminished life quality and poor health results when compared to those without FMS and people diagnosed with other chronic diseases because their symptoms heavily affect both daily activities and social functioning and professional capabilities [4].

Medical science has not yet established the precise roots of FMS even though central nervous system sensitization stands as an identified contributor while stress and trauma can intensify the condition. Scientific research shows FMS patients experience health abnormalities in neurotransmitters as well as hormonal imbalances along with dysfunctions in peripheral tissue structures while showing higher muscle tension levels and reduced parasympathetic activity and elevated stress responses [5,6]. It leads to frequent returns of symptoms while costing healthcare systems a significant amount because traditional FMS treatments such as pharmacological methods together with psychological approaches generally only offer short-term relief [6].

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CAM therapies form a cornerstone of FMS patient care because 77% of patients seek them out to better their physical condition and reduce symptoms of pain and strengthen their body systems. Siddha alongside other CAM modalities treats whole body health via their combined focus on physical conditions along with emotional states and correctible disruptions in vital energy. Individuals undergoing "Vatha Solia" for FMS receive two Siddha-based treatments: Varma which stimulates energy points and Tokamak which provides manual therapeutic results with proven effectiveness in treating FMS symptoms including pain and stiffness and sleep problems [7,8]. The Varma process targets energy points for treatment to release panic energy blockages and restore healing balance. The manual procedures used in Tokamak therapy enhance natural healing processes by improving mobility and circulation and lymphatic flow [9–11].

Life involves physical activity as an essential non-drug intervention method for the management of FMS symptoms. Scientific research supports that light physical activity combined with stretching practices leads to decreased symptoms while improving both range of motion and life quality [12,13]. Knee therapy sessions when combined with exercise approaches demonstrate the ability to improve multiple benefit outcomes regarding energy movement and muscle rest and symptom regulation according to studies [14–16]. The research evaluated the treatment results between applying Siddha manual therapy combined with energy sessions and exercise with exercise monotherapy during a 6-week period for FMS patients experiencing pain relief and sleep quality improvement alongside reduction of fatigue and health conditions and enhanced well-being. The hypotheses tested included:

1. Siddha manual therapy with or without exercise is effective in managing FMS symptoms.
2. Combining Siddha therapy with exercise provides superior outcomes compared to exercise alone.

2. METHODS

2.1 Study Design

The Characids Holistic Healing Centre in Hyderabad hosted this randomized controlled experiment from January to December 2024. The study protocol was approved by the center's Ethics Committee and followed the standards of the Declaration of Helsinki. Following a full explanation of the study protocols, all participants provided written informed permission.

2.2 Participants

Participants were diagnosed with Fibromyalgia Syndrome (FMS) by a rheumatologist following the 1990 criteria of the American College of Rheumatology (ACR). They were referred to the physiotherapy department for further screening. Forty participants were selected based on predefined inclusion and exclusion criteria.

2.3 Criteria of Inclusion

Participants were eligible if they:

- Female outpatients aged 20-65 years.
- Meets ACR requirements for FMS diagnosis.
- Reported moderate pain (≥ 4 on the Visual Analog Scale) at baseline.
- Experienced pain in 3–4 body regions.
- Had not used steroids or antidepressants in the past six months.
- Volunteered to participate in the study.

2.4 Criteria of Exclusion

criteria included:

- Pain from traumatic damage, structural anomalies, or localized rheumatic illnesses.
- Chronic infections, allergies, fever, and bleeding issues.
- Severe physical disabilities, such as tendinitis or cardiopulmonary diseases.
- Conditions may include endocrine abnormalities, inflammatory arthritis, autoimmune illnesses, pregnancy, or cancer.
- Unstable medical or psychological disorders, or current pharmaceutical use.
- Conditions that prevent activity, such as cardiac, pulmonary, or orthopedic difficulties.
- Conducted exercise treatments (e.g., Pilates, gym, Zumba) within the last six months.

Participants were required to avoid myorelaxants and nonsteroidal anti-inflammatory drugs for three days before therapy and throughout the treatment period, including the evaluation process.

2.5 Procedure of Recruitment

A total of 47 women were initially screened for the study. Of these, five participants were excluded due to comorbidities or involvement in other physical therapy programs, while two declined participations due to prior commitments. The remaining 40 eligible participants were arbitrarily allocated into two groups: Exercise plus Siddha therapy with energy meetings (number= 20) as well as Exercise-only (number= 20). Both groups underwent a 6-week intervention, receiving

therapy five days a week. Randomization was performed using a computer-generated sequence, and the researcher managing the trial remained blinded to the allocation until the baseline assessments were completed (Figure 1).

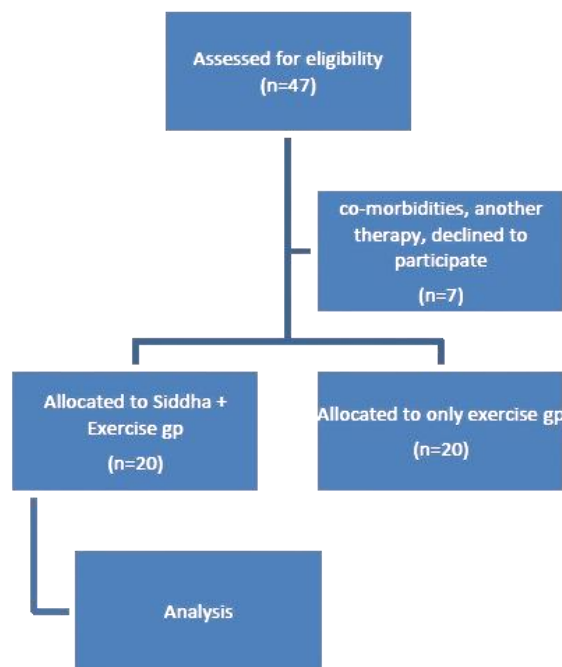


Fig. 1. Participants' flow chart diagram.

2.6 Assessment Measures

The Physical Department of the Chakra Siddh Centre originally tested all participants. During the baseline assessment, demographic information (e.g., age, weight, height, BMI, habits), prescription details, and prior therapy were documented. Physical activity levels were assessed using the International Physical Activity Questionnaire-7 (IPAQ-7) [5]. Pain severity, exhaustion, sleep disruptions, health condition, and quality of life were also measured. Assessments were performed at the start of the study (before randomization) and at the end of the 6-week intervention program. Throughout the trial, outcome evaluators were not aware of group allocation.

2.7 Visual Analog Scale (VAS)

Pain, exhaustion, and sleep disruptions were assessed using the Visual Analog Scale (VAS), a reliable technique validated by Clark et al. [6]. Participants rated the severity of these characteristics on a 10-cm horizontal line, with 0 representing no symptoms and 10 denoting maximum severity. For pain, 0 represented no pain and 10 painful pains; for weariness, 0 represented no fatigue and 10 intolerable fatigues; and for sleep, 0 to 10 indicated refreshing to unrefreshing sleep.

2.8 Questionnaire of Fibromyalgia Impact

Health status was assessed using the Fibromyalgia Impact Questionnaire (FIQ) [7], a 10-item self-administered questionnaire designed for FMS patients. It evaluates physical impairment, days of feeling well, work missed, and symptoms like pain, fatigue, stiffness, morning tiredness, anxiety, and depression. Scores range from 0 to 100, with higher scores indicating a greater impact of FMS.

2.9 Health-Related Quality of Life

The evaluation of patient excellence of life utilized Short Form-survey assessments scored between zero for worst condition to hundred for best health [8]. The assessment technique measures eight domains through its survey approach to evaluate physical functioning and physical health impacts on work performance while also addressing bodily pain and social participation along with emotional state and overall health perception and mental health status differences through time.

2.10 Interventions

Participants were instructed to discontinue any medications during the three-week therapy period to ensure standardization. Both groups (Siddha manual therapy + exercise and exercise-only groups, n=20n=20 each) participated in the intervention program for five days a week over three weeks.

2.11 Siddha Manual Therapy (Varma, Tokamak, and Energy Sessions)

The intervention group had 45-minute therapy sessions that included Varma, Tokamak, and energy sessions. Tokamak, a therapeutic massage technique in Siddha medicine, employs particular hand movements to increase circulation, relieve pain, and induce calm. To obtain the best outcomes, techniques like Aphtha (pressing), Ishita (stretching), Thaddaeus (rubbing), and Podetial (holding and releasing) were gently used for 12-15 minutes per session.

Varma therapy entailed stimulating certain energy points to alleviate pain, increase circulation, and restore energy flow (prana, or vital energy). Participants received targeted therapy on Varma spots in order to alleviate fibromyalgia symptoms. In addition, two 10-minute energy treatments were delivered during the second and third weeks to clear energy blockages (Table I).

TABLE I: VARMA POINTS APPLIED IN FMS THERAPY

Varmam Point	Location	Duration (Minutes)
1. Kaichal Varmam	Shoulder area	Four–five m
2. Ottu Varmam	Neck & cervical spine region	Five m
3. Soothi Varmam	Wrists & forearms	Three–four m
4. Pada Varmam	Sole of the feet & ankle area	Four m
5. Moolathara Varmam	Base of the spine, including the tailbone	Three m
6. Kandha Varmam	Chest, collarbone, & shoulder area	Two–three m
7. Thilartha Varmam	Temples near the sides of the forehead	Three–four m
8. Nadi Varmam	Energy pathway points across the body	Five m
Total Therapy Duration		Thirty–thirty-five m

2.12 Exercises

Both groups participated in exercise sessions lasting 35–40 minutes, conducted three days a week for six weeks under the supervision of a trained physical therapist. Sessions began with instruction on proper spinal posture, where participants were guided to stand correctly and adjust their walking style to improve spinal curvature [12]. The exercise program included:

- A ten-minutely warm-up session.
- Perform Fifteen minutes of aerobic and strength activities.
- Perform ten minutes of Kaya-karpam, a mild stretching exercise for the neck, trunk, upper and lower limbs.
- A five-minutely breathing practice for stress reduction [13].

2.13 Analysis of Statistical

Statistical analysis was carried out with SPSS version 11.5, and descriptive statistics were used to summarize the information. Results of normally dispersed variables were reported as mean (\pm SD). Numeric factors like as age, BMI, as well as IPAQ-7 scores was analysed using the single sample t-test and the Mann-Whit U examination, as appropriate. The the Wilcoxon ranking test was applied for evaluate improvements in discomfort, fatigue, sleep illnesses, health status, & quality of living within every group before & after the intervention. Comparisons of discomfort, fatigue, sleeping issues, & quality of life across groups were performed using the Mann-Whit U test. A significant criterion of $P < 0.05$ is applied to assess statistical relevance.

3. RESULTS

A total of 48 women with FMS were considered for inclusion in the research, with 40 meeting the eligibility requirements. Figure 1 depicts the movement of participants throughout the study. No adverse events was recorded during the intervention, as well as all Forty participants finished the treatment and exercise programs. They were no substantial difference between the two groups concerning initial physical parameters ($p > 0.05$) (see Table II). At the beginning of the study, all groups showed comparable scores in pain, fatigue, sleep illnesses, health status, overall enjoyment of life (Table III).

Both groups showed significant gains (Siddha treatment plus exercise versus exercise alone). However, those who had Siddha manual treatment (Varma, Tokamak, & energy treatments) in addition to exercises exhibited larger overall improvements throughout all variables than those who merely exercised.

The Exercise + Siddha therapy group showed significant decreases in pain, exhaustion, and sleep issues ($p < 0.05$), as well as substantial improvements in health status and quality of life (SF-36 scores) ($p < 0.05$). The exercise-only group experienced decreased pain, fatigue, and sleep disturbances ($p < 0.05$). However, there were improvements in overall health (FIQ-1 as well as FIQ-10 scores) and quality of life (measured by variables such as bodily pain, physical functioning, limitations in roles due to mental and physical wellness, vitality, and general health perceptions). were less pronounced. Additionally, quality of life subdomains related to social functioning and mental health showed minimal changes (see Table IV).

When comparing the groups, the Exercise + Siddha therapy group demonstrated superior outcomes in variables such as pain, fatigue, sleep issues, and physical health-related role limitations in quality of life. Other parameters showed minimal differences between the two groups (see Table V).

TABLE II: PARTICIPANTS' PHYSICAL CHARACTERISTICS

Physical Characteristic	Siddha plus Exercise Group (n equal 20)	Exercise-Only Group (n equal 20)	p-Value (p >>0.05)
Age (years, Mean plus Minus SD)	41.4 plus, minus 8.2	44.8 plus, minus 9.4	0.215*
BMI (kg/m ² , Mean plus Minus SD)	23.6 plus, minus s 3.6	24.3 plus, minus 3.4	0.478*
IPAQ-7 Score (Median)	412	398	0.167**

TABLE III: PRE- AND POST-INTERVENTION DIFFERENCES IN PAIN, FATIGUE, SLEEP ISSUES, AND HEALTH STATUS

Item	Siddha Therapy plus Exercises (n equal 20)	p-Value	Exercises Only (n = 20)	p-Value (p<0.05)
Pain (VAS)	Before: 8.2, After: 2.1	< 0.001*	Before: 8.5, After: 3.7	< 0.001*
Fatigue (VAS)	Before: 7.9, After: 4.5	< 0.001*	Before: 8.1, After: 3.9	0.002*
Sleep Issues (VAS) (FIQ)	Before: 6.7, After: 2.0	< 0.001*	Before: 7.3, After: 2.4	0.001*
Bodily Impaired	Before: 5.1, After: 2.8	0.031	Before: 6.3, After: 4.2	0.303*
Days Felt Good	Before: 7.2, After: 3.4	< 0.001**	Before: 8.1, After: 3.9	0.066*
Work Missed	Before: 5.5, After: 1.7	0.004	Before: 4.8, After: 2.3	0.043*
Work Impaired	Before: 8.1, After: 2.5	< 0.001**	Before: 7.7, After: 3.3	0.011*
Pain	Before: 8.5, After: 1.9	< 0.001**	Before: 9.0, After: 3.5	0.001**
Fatigue	Before: 7.9, After: 2.0	< 0.001**	Before: 7.4, After: 3.7	0.031*
Morning Tiredness	Before: 8.7, After: 3.1	< 0.001**	Before: 7.9, After: 4.0	0.001**
Stiffness	Before: 6.9, After: 2.5	< 0.001**	Before: 6.4, After: 3.1	0.001**
Anxiety	Before: 7.5, After: 3.3	0.027	Before: 7.2, After: 4.2	0.005*
Depression	Before: 6.0, After: 3.7	0.009	Before: 6.8, After: 4.5	0.256*

TABLE IV: DIFFERENCES IN EXCELLENCE OF LIFETIME (SF-36) PRE- & POST-INTERVENTION

Quality of Life (SF-36)	Siddha Therapy + Exercises (n = 20)	p-Value (p<0.05p < 0.05p<0.05)	Exercises Only (n = 20)	p-Value (p<0.05p < 0.05p<0.05)
Physical Functioning	Before: 48.2, After: 73.1	< 0.001**	Before: 48.5, After: 63.7	0.009*
Role Limitations (Physical Health)	Before: 17.9, After: 84.5	0.006*	Before: 18.1, After: 73.9	0.019*
Bodily Pain	Before: 56.7, After: 82.0	< 0.001**	Before: 47.3, After: 62.4	0.005*
Social Functioning	Before: 63.7, After: 77.9	0.003*	Before: 50.1, After: 67.8	0.029*
Mental Health	Before: 55.1, After: 72.8	< 0.001**	Before: 36.3, After: 54.2	0.013*
Role Limitations (Emotional Health)	Before: 27.2, After: 98.4	0.005*	Before: 38.1, After: 63.9	0.048*
Vitality	Before: 37.1, After: 68.4	< 0.001**	Before: 31.6, After: 60.6	0.004*
Health Perceptions	Before: 41.8, After: 71.1	0.001**	Before: 34.5, After: 66.9	0.016*

Notes:

- SF-36: Short Form-36 Health Survey.
- Wilcoxon test used for analysis.
- Highly significant values are marked with.

The above table illustrates the pre- and post-intervention improvements in quality-of-life parameters for both groups, with the Siddha Therapy + Exercises group showing greater overall improvements.

TABLE V: COMPARISON OF PRE- AND POST-INTERVENTION DIFFERENCES BETWEEN THE GROUPS

Parameter	Siddha + Exercise Group (n equal 20)	Exercise-Only Group (n equal 20)	p-Value (p<0.05)
Pain of VAS	2.59 plus, minus 2.05	1.49 plus, minus 1.19	0.005*
Fatigue of VAS	3.82 plus, minus 2.47	2.76 plus, minus 1.41	0.048*
Sleep Issue of VAS	4.38 plus, minus 8.26	4.44 plus, minus 8.66	0.017*
Health Status (FIQ)			
Physical Impaired	1.92 plus, minus 1.51	1.19 plus, minus 0.58	0.394
Days Felt Good	2.86 plus, minus 1.97	2.40 plus, minus 1.28	0.076
Work Missed	0.31 plus, minus 1.05	0.34 plus, minus 0.74	0.063
Work Impaired	2.20 plus, minus 1.48	2.46 plus, minus 2.25	0.074
Pain	2.60 plus, minus 1.48	3.46 plus, minus 2.25	0.027*
Fatigue	2.76 plus, minus 1.41	3.82 plus, minus 2.47	0.039*
Morning Tiredness	4.28 plus, minus 2.67	2.36 plus, minus 1.51	0.050*
Stiffness	2.38 plus, minus 1.75	3.46 plus, minus 2.67	0.17

Anxiety	1.62 plus, minus 1.34	3.66 plus, minus 2.79	0.006*
Depression	1.52 plus, minus 1.31	2.86 plus, minus 2.36	0.662
Quality of Life (SF-36)			
Physical Functioning	9.19 plus, minus 10.79	12.86 plus, minus 13.18	0.338
Role Limitations (Physical Health)	6.37 plus, minus 1.09	9.07 plus, minus 2.27	0.033*
Bodily Pain	9.66 plus, minus 9.78	14.10 plus, minus 13.90	0.047*
Social Functioning	3.20 plus, minus 7.56	3.34 plus, minus 9.68	0.422
Mental Health	4.44 plus, minus 8.66	4.38 plus, minus 8.26	0.397
Role Limitations (Emotional Health)	7.28 plus, minus 9.75	1.38 plus, minus 3.26	0.109
Vitality	0.74 plus, minus 1.66	5.88 plus, minus 6.29	0.076
Health Perceptions	4.94 plus, minus 3.06		0.091

Notes:

- VAS: Visual Analog Scale.
- FIQ: Fibromyalgia Impact Questionnaire.
- SF-36: Short Form-36 Health Survey.
- Wilcoxon test used for statistical analysis.
- Significant differences are marked with ***.

The above table highlights the comparative effectiveness of Siddha + Exercise therapy and Exercise-only intervention on various parameters. The Siddha + Exercise group demonstrated significantly better improvements in specific measures, such as pain, fatigue, and anxiety.

4. DISCUSSION

Fibromyalgia, comparable to *Vatha Solia* in Siddha medicine, presents challenges in clinical management, particularly in the areas of pain, mobility, and quality of life. While limited clinical studies exist on fibromyalgia within Siddha medicine, the available research has demonstrated developments in variables such as pain, joint flexibility, bodily operative, stress reduction, fatigue, and depression, which align with the findings of this study.

Fibromyalgia Syndrome (FMS) is characterized by chronic, widespread pain in 8–12 body points and predominantly affects women, with a global prevalence of 0.9%–5% [1]. In this study, all participants were female, consistent with global trends, as women constitute 94.5% of patients seeking treatment for FMS. The majority were between 30 and 45 years old, aligning with other studies [17,18]. Although the exact cause of FMS remains unknown, nearly 98% of participants reported sleep disturbances and mental distress, contributing to anxiety, depression, and a poor quality of life [19]. A significant proportion (82%) had used complementary and alternative medicine (CAM) within the last two years for pain relief and improved quality of life. Most participants had a BMI within the normal-to-overweight range (18.5–27.9) and came from stable socio-economic backgrounds.

Quality of life, assessed via the SF-36 form, revealed minimal improvement in areas such as emotional health, physical health, and social functioning across both groups, though values remained significant. These findings underscore the importance of incorporating cognitive therapies alongside physical treatments.

Siddha medicine functions through holistic principles to present multiple effective solutions for musculoskeletal diseases and autoimmune conditions. Varma therapy implements targeted treatment of 108 energy points throughout 12 body channels which effectively reduces musculoskeletal problems and improves pain levels and body mobility. The therapy works effectively as a result of its activation of both brain opioid systems and analgesic neural pathways [20]. Varma therapy has demonstrated significant success in treating ankylosing spondylitis with rheumatoid arthritis patients experiencing decreased pain levels and reduced stiffness and increased joint function [15,18]. The data from investigations demonstrate Siddha therapy's ability to deal with both lumbar spondylosis along with pediatric conditions which supports its utility in treating various medical issues [21,24].

The combination of Siddha therapies together with exercise techniques leads to improved results. Siddha pressure therapies which link with 30-minute exercise sessions alongside yoga and meditation proved to effectively treat spine disorders while shrinking feelings of anxiety and depression while boosting physical capabilities and body flexibility [22, 23]. The rejuvenation therapy Kaya Karam demonstrates successful treatment of fibromyalgia symptoms and circulation improvement by using stretching exercises at a slow pace [16].

Individuals who performed exercises only experienced decreases in their pain levels and fatigue while also improving their ability to sleep. The health status combined with quality of life demonstrated lower improvements within the exercise-only group when contrasted with the Siddha + exercise group. The available research demonstrates that exercise-based treatments help with pain and anxiety yet they do not address sleep disturbance and depression adequately [24]. The combination of Siddha therapies with exercise produced better outcomes for pain reduction as well as improvements in muscle strength and flexibility and quality of life success compared to exercise alone [25].

The combination of Siddha therapy with exercise delivered an 78% improvement rate versus the 56% success rate achieved through exercise only. Both intervention approaches successfully reduced symptoms of pain and fatigue and sleep disturbances while also improving both health status and the overall quality of life. A simultaneous treatment approach of

Siddha manual therapy with exercises demonstrated greater effectiveness for managing the extensive symptoms of FMS. Additional comprehensive studies are needed to validate these trail results while demonstrating the best outcomes stem from combining Siddha therapy with exercises as a FMS management method. Table (VI) presents study results showing that combining Siddha therapy with exercises achieves superior symptom management of Fibromyalgia Syndrome (FMS) compared to exercises alone through improved results for pain, fatigue and sleep disturbances and health status and quality of life.

TABLE VI: SUMMARY OF KEY FINDINGS IN MANAGING FIBROMYALGIA SYNDROME (FMS)

Key Areas	Siddha Therapy + Exercises	Exercise-Only	Key Observations
Pain Reduction (VAS)	78% improvement	56% improvement	Siddha therapy + exercise group demonstrated significantly greater reduction in pain levels.
Fatigue Reduction (VAS)	Significant improvement	Moderate improvement	The combined group showed better outcomes in reducing fatigue compared to exercise alone.
Sleep Disturbances (VAS)	Marked improvement	Moderate improvement	Sleep problems were better addressed in the Siddha + exercise group.
Health Status (FIQ)	Significant improvement across sub-items	Less improvement in most sub-items	Improved physical functioning, reduced work impairment, and fewer days of poor health in the Siddha group.
Quality of Life (SF-36)	Significant improvement	Lesser improvement	Bodily pain, role limitations, and vitality were notably better in the Siddha therapy + exercise group.
Emotional and Social Health	Minimal improvement	Minimal improvement	Both groups showed limited progress in areas like emotional health and social functioning.
Overall Effectiveness	78% improvement	56% improvement	Siddha therapy combined with exercises was more effective than exercise alone in managing FMS symptoms.

Key Notes:

- VAS: Visual Analog Scale
- FIQ: Fibromyalgia Impact Questionnaire
- SF-36: Short Form-36 Health Survey

The above table highlights the superior effectiveness of integrating Siddha therapy with exercises for holistic symptom management in FMS patients.

5. CONCLUSION

Researchers studied the treatment outcomes of Siddha manual treatment (Varma & Tokamak) combined with energy meetings and bodybuilding compared to exercise-alone for patients with Fibromyalgia Syndrome (FMS). The research showed that both treatment methods reduced symptoms pain fatigue and sleep complications as well as upgraded health condition and life quality. The therapy combination of Siddha techniques and exercise delivered increased benefits for most treatment outcome measures more efficiently than either procedure alone. The Siddha + exercise combination treatment proved effective for participants leading to both substantial pain and fatigue relief and sleep improvement while producing notable results for physical functioning and vitality and bodily pain. This treatment methodology matches Siddha medical principles that work to balance physical elements and emotional dimensions as well as energy patterns. Through Varma therapy the practitioner activated energy points to enhance blood flow and decrease rheumatic symptoms while using Tokamak methods which treated muscle tension for relaxation benefits. The healing and strength enhancing abilities of these therapies work alongside exercise programs to develop better flexibility outcomes and promote faster recovery. The combined Siddha medicine and exercise intervention produced better clinical results than the single exercise treatment approach since participants experienced major work function improvements together with superior physical mobility outcomes. Studies already demonstrate that using traditional therapies along with physical activity creates enhanced pain management benefits and live quality improvements. Patients who received Siddha therapy alongside exercises achieved better results than individuals who participated in exercises alone showing an 78% improvement rate compared to a 56% improvement rate in the exercise-only group. Research findings show that adding Siddha manual therapy into conventional FMS management efforts represents an effective means of integrated holistic symptom reduction. Closer evaluation must be performed by wide-ranging studies examining diverse populations to confirm these results while developing standard FMS treatment protocols using Siddha therapy.

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Conflicts of Interest:

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References

- [1] F. Wolfe *et al.*, "The American College of Rheumatology 1990 criteria for the classification of fibromyalgia," *Arthritis & Rheumatism: Official Journal of the American College of Rheumatology*, vol. 33, no. 2, pp. 160–172, 1990.
- [2] R. Staud and M. A. Domingo, "Evidence for abnormal pain processing in fibromyalgia syndrome," *Pain Medicine*, vol. 2, no. 3, pp. 208–215, 2001.
- [3] J. R. Redondo *et al.*, "Long-term efficacy of therapy in patients with fibromyalgia: A physical exercise-based program and a cognitive-behavioral approach," *Arthritis Care & Research*, vol. 51, no. 2, pp. 184–192, 2004.
- [4] M. Giovale *et al.*, "Low-energy pulsed electromagnetic field therapy reduces pain in fibromyalgia: A randomized single-blind controlled pilot study," *Rheumatology and Immunology Research*, vol. 3, no. 2, pp. 77–83, 2022.
- [5] C. L. Craig *et al.*, "International physical activity questionnaire: 12-country reliability and validity," *Medicine & Science in Sports & Exercise*, vol. 35, no. 8, pp. 1381–1395, 2003.
- [6] P. Clark *et al.*, "Learning from pain scales: Patient perspective," *The Journal of Rheumatology*, vol. 30, no. 7, pp. 1584–1588, 2003.
- [7] E. Ernst and M. H. Pittler, "Experts' opinions on complementary/alternative therapies for low back pain," *Journal of Manipulative and Physiological Therapeutics*, vol. 22, no. 2, pp. 87–90, 1999.
- [8] C. S. Burckhardt, S. R. Clark, and R. M. Bennett, "The fibromyalgia impact questionnaire: Development and validation," *The Journal of Rheumatology*, vol. 18, no. 5, pp. 728–733, 1991.
- [9] E. H. Kim and W. Kim, "Post treatment application of Jaungo after a combined therapy of carbon dioxide laser and trichloroacetic acid in a case of vulvar syringoma," *Journal of Pharmacopuncture*, vol. 22, no. 3, p. 200, 2019.
- [10] R. Meena *et al.*, "Siddha Varmam and Thokkanam therapy in the treatment of adhesive capsulitis: A case report," *Journal of Ayurveda and Integrative Medicine*, vol. 12, no. 2, pp. 373–377, 2021.
- [11] A. Gupta, "Cervical Stenosis management by Siddha therapy: A case report," *Journal of Ayurveda and Integrative Medicine*, vol. 13, no. 3, pp. 389–392, 2024.
- [12] A. J. Busch *et al.*, "Exercise for treating fibromyalgia syndrome," *Cochrane Database of Systematic Reviews*, vol. 4, 2007.
- [13] S. B. Lorena *et al.*, "Effects of muscle stretching exercises in the treatment of fibromyalgia: A systematic review," *Revista Brasileira de Reumatologia*, vol. 55, pp. 167–173, 2015.
- [14] R. S. Singh *et al.*, "COVID-19 pandemic: Evidences from clinical studies," 2020.
- [15] L. Chen and A. Michalsen, "Management of chronic pain using complementary and integrative medicine," *BMJ*, vol. 357, Art. no. j1284, 2017, doi: 10.1136/bmj.j1284.
- [16] G. Vinitha and K. Saibudeen, "Literature review on Kaya Karpa medicines from various Siddha literatures," *International Journal of Translational Research in Indian Medicine*, vol. 1, no. 2, pp. 13–21, May–Aug. 2019.
- [17] G. Senthilvel and A. Amuthan, "Application of Varmam (physical manipulation therapy of traditional Siddha medicine) for contemporary health issues: An update," *Journal of Ayurveda Medical Sciences*, vol. 4, no. 1, 2019.
- [18] E. H. Kozasa *et al.*, "Evaluation of Siddha Samadhi Yoga for anxiety and depression symptoms: A preliminary study," *Psychological Reports*, vol. 103, no. 1, pp. 271–274, 2008.
- [19] A. Chandrasekaran *et al.*, "Comorbidity profile of Siddha Varmam therapy patients and insight into integrative pain management: A cross-sectional study," *Journal of Complementary Medicine Research*, vol. 12, no. 2, p. 197, 2021.
- [20] C. Balasubramanian *et al.*, "Morbidity profile of patients attended Siddha Regional Research Institute, Puducherry in 2017 – a cross-sectional study," *Journal of Ayurveda and Integrative Medicine*, vol. 13, no. 2, Art. no. 100507, 2022, doi: 10.1016/j.jaim.2021.07.022.
- [21] G. Ekici *et al.*, "Effects of active/passive interventions on pain, anxiety, and quality of life in women with fibromyalgia: Randomized controlled pilot trial," *Women & Health*, vol. 57, no. 1, pp. 88–107, 2017.
- [22] T. Field, J. Delage, and M. Hernandez-Reif, "Movement and massage therapy reduce fibromyalgia pain," *Journal of Bodywork and Movement Therapies*, vol. 7, no. 1, pp. 49–52, 2003.
- [23] B. S. Sindhuja *et al.*, "Role of Siddha in management of Duchenne muscular dystrophy to reinforce the quality of life: A pediatric case report," *International Journal of Science and Research*, vol. 1, no. 13, pp. 162–166, 2024.
- [24] L. Lindgren *et al.*, "Physiological responses to touch massage in healthy volunteers," *Autonomic Neuroscience*, vol. 158, no. 1, pp. 105–110, 2010.
- [25] A. Mishra and V. Shrivastava, "Exploring the science of Marma – an ancient healing technique: Marma therapy," *Dev Sanskriti Interdisciplinary International Journal*, vol. 22, 2023, doi: 10.36018/dsiij.v20i.157.