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Comparison of Managing Fibromyalgia Syndrome by Integrated Siddha Manual Therapy and Energy Sessions with Exercises to Exercise Alone in Women: A Randomized Controlled Trial

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ABSTRACT

Objective: *This study aimed to analyze and compare the effectiveness of 6-week Siddha manual therapy (Varmam and Thokkanam) and energy sessions combined with exercise program to only exercises on pain, fatigue, sleep issues, health status, and quality of life in patients with Fibromyalgia Syndrome (FMS).* ***Methods:*** *The design was randomized controlled trial and patients were randomly allocated into Exercise + Siddha [Manual + Energy sessions] (n=20) and Exercise alone (n=20) groups. The treatment was scheduled for 5 days a week for 6 weeks for both groups. Pain, fatigue, sleep issues were evaluated with Visual Analog Scales (VAS), health status with Fibromyalgia Impact Questionnaire (FIQ), and quality of life with Short Form-36 (SF-36) health questionnaire, all administered before and after intervention of treatment to both groups. The data was analyzed by Wilcoxon signed rank test and Mann-Whitney U test.* ***Results:*** *Significant improvements were observed in both groups but patients given Siddha manual therapy with exercises showed better improvements in all variables as compared to patients intervened with exercise alone. In the Exercise + Siddha therapy group, all sub-items: pain ($p<0.05$), fatigue ($p<0.05$) and sleep problem ($p<0.05$) decreased, health status and quality of life improved ($p<0.05$). In exercise alone ($p<0.05$), pain, fatigue and sleep problem reduced but health status (the scores of FIQ-1 and FIQ-10), and quality of life (bodily pain, physical functioning, limitations due to physical health, emotional health, vitality, and general health perceptions parameters) showed lesser improvements.* ***Conclusions:*** *For this particular group of patients both Siddha (manual and energy sessions) therapy with exercises and exercises alone appeared to yield improvements in decreasing pain, fatigue and sleep issues along with increasing health status and quality of life in patients with FMS. However, Siddha incorporating both therapy and energy sessions with exercises was found to be more effective than exercises alone according to some sub items of FIQ in improving more health status and quality of life as compared to exercise alone however, further adequately powered trial is required to determine this with certainty.*

Keywords: Fibromyalgia, Siddha, Varmam, Energy session, Pain, Quality of life

INTRODUCTION

Fibromyalgia Syndrome (FMS) is a chronic pain syndrome occurring more commonly in women [1]. According to the 1990 criteria of the American College of Rheumatology (ACR), FMS is associated with chronic widespread pain with at least eleven positive tender points out of 18 [2]. Its prevalence is attributed to around 0.8%-5.9% in the general population and trends shows it increasing every year. Besides musculoskeletal pain, it is often accompanied by generalized fatigue, reduced physical strength, sleep disturbance, G.I issues and psychological distress such as depression [3]. Pain and other symptoms

associated with Fibromyalgia intervene with daily functioning, social activities, work, poor health status resulting in a decreased quality of life compared to healthy individuals or those with other chronic diseases [4]. Although it is a syndrome of unknown etiology, central nervous system sensitization is considered a major patho-physiological aspect in fibromyalgia, with external stimuli like stress, trauma aggravating the syndrome. Various studies revealed abnormalities in neurotransmitters, hypothalamic–pituitary–adrenal axis hormones, and peripheral tissues in FMS. In particular, the individuals with fibromyalgia have decreased parasympathetic activity and vascularization, and increased muscle tension, stress, and discomfort [5,6].

The prognosis of FMS is poor and no complete cure has been found for the disease. Many interventions that are advocated in FM are targeted against the more general characteristics of pain and disability. Though, conventional medicines (steroids and antidepressants) or psychological ways (cognitive behaviour therapies) have proved to be little effective, relapse of symptoms are seen after a period of time [6]. Individuals face a significant cost expenditure in the health system due to frequent visits to a doctor. To manage symptoms, there is an increased tendency of using at least one of the Complementary and Alternative Medicine (CAM) extensively as reported in 77% individuals with FMS. Use of CAM's aims to enhance body functions, activity and overall health of an individual. It is seen following a CAM's therapy sessions, a progressive decrease in the rise in plasma myoglobin concentration, coinciding with a decrease in muscular soreness and strain, reducing pain levels [7]. Other than these benefits, these treatments have high potential to treat holistically, less costly and more effective.

Vatha Soolai, a common term for fibromyalgia in Standard Siddha treatment guidelines; describes it as characterized by pain in legs and hands with numbness, heaviness of the body, throbbing pain all over the body, sleep disorder and mild fever. For symptom management, Siddha therapy, has been used widely as one of CAMs for fibromyalgia in southern part of India. Through the holistic way of managing both mental and physical mechanisms of action, it helps in alleviating pain, anxiety, depression, and sleep disturbance [8]. However, the outcomes of siddha manual therapies like varmam and thokannam therapy for fibromyalgia are inconsistent, many studies have suggested that the therapy had provided beneficial evidence in treating muscular pain. Varmam techniques involves both generalized soft tissue therapies, such as pressure strokes and focal soft tissue therapy to release the pranic energy flow in energy spots called Thodu Varmam. Researchers believe these energy points hold pranic energy or vital energy and are concentrated at juncture of muscles, nerves, veins, arteries, and capillaries. Incorporating energy sessions in Siddha therapy, works on stimulating these vital energy points to improve energy flow, leading to the natural balance and harmony within the body also controls physiological processes and aids in healing [9]. According to Siddha philosophy, these points are intersections where physical, emotional, and spiritual energies converge. It is believed that unresolved emotions, past traumas, or negative interactions can manifest as energy blockages in these areas, potentially leading to health issues. Siddha practitioners, by applying gentle pressure or touch to these points, aims to release blockages, thereby restoring the natural flow of energy within the body. This process is said to activate the body's self-healing mechanisms, leading to various therapeutic benefits [9].

Thokannam is an external manual method, that includes manipulation, mobilization, and manual traction for mobility in joints. Thokannam resembles working Connective Tissue Massage (CTM) wherein brief and prolonged tractions, these methods reduce sympathetic activity and have mechanical effects on connective tissue mast cells causing vasodilation. Parasympathetic effect rises subsequently, causing an enhancement in the healing process through improved circulation [10]. Few researchers projected that in siddha therapies, gentle strokes on the lymph vessels mobilize the lymphatic fluid. This clears blockages, removes excess fluids, and eliminates toxins and metabolic waste from the body [11].

It is believed that exercises are considered as one of the primary non-pharmacological strategy in fibromyalgia symptom management. Studies shows less time spent sedentary and more light physical activity was associated with less pain, fatigue, and overall impact of the disease [12]. Exercise has shown to be beneficial for patients' overall physical function, aerobic performance, psychological well-being, and health-related quality of life like anxiety and depression [13]. Though, studies related to FMS and Siddha are very few, research focusing on Varmam therapy have shown that combining gentle physical movements and stretching with specific pressure-point stimulation can relieve muscle pain and improve flexibility, which may benefit fibromyalgia patients. Some Siddha practitioners suggest low-impact exercises with Varmam techniques helps to improve energy flow, muscle relaxation and eventually healing [14]. Others projected simple joint mobility exercises along with Siddha therapy to support musculoskeletal health, which may help alleviate stiffness and discomfort associated with fibromyalgia [15]. Kaya Karpam, Siddha's rejuvenation therapy, often includes mild and gentle exercises or movements that support the detoxification and rejuvenation process, focusing mainly on slow stretching and promoting circulation for fibromyalgia patients [16]. It is often seen that controlled breathing and mindfulness can reduce pain sensitivity and improve

mood, both of which are significant in managing fibromyalgia. While rigorous scientific studies on these combined therapies in FMS are lacking, these practices align with the principles of management in Fibromyalgia and advanced studies should be taken in future for holistically treating FMS.

To analyze and compare the effectiveness of 6-week Siddha manual therapy (Varmam and Thokkanam) with energy sessions combined with exercise program to only exercises on pain, fatigue, sleep issues, health status, and quality of life in patients with Fibromyalgia Syndrome (FMS), this prospective RCT was conducted. The following hypotheses were investigated:

- Siddha manual therapy and energy sessions combined with exercises or without exercises would be affective for the treatment of FMS.
- The combination of both siddha manual therapy and exercise program may alter the outcomes.

METHODOLOGY

Study Design

The study was a randomized control trial performed at Chakrasiddh Holistic healing centre at Hyderabad between January, 2023 and ended in December, 2023. The Ethics Committee of the centre approved the protocol; and the study was conducted in accordance with the rules of the Declaration of Helsinki. Written informed consent form was duly signed by all volunteer patients and all procedures had been fully explained before start of this study.

Participants

Following the 1990 criteria of ACR for the syndrome, the participants in this study were diagnosed with FMS by a rheumatologist, referred to the center's physiotherapy department, and were screened for eligibility. All 40 subjects were selected, if they were meeting the inclusion and exclusion criterion.

The inclusion criterion for patients for their eligibility for the study:

- Were female outpatients
- At least 20 years-65 years
- Met the criteria for FMS as defined by the American College of Rheumatology
- Had moderate pain (≥ 4 based on VAS) before the baseline visit
- Had pain in the 3-4 body regions were not taking any steroids or anti-depressant drugs from the last 6 months
- Volunteered to participate in this study

Exclusion criteria included the following:

- Pain from traumatic injury or structural or regional rheumatic disease
- Chronic infection, Allergic disorder
- Fever or an increased tendency to bleed
- Severe physical impairment
- Signs of tendinitis
- Cardiopulmonary disorder, uncontrolled endocrine disorder
- Inflammatory arthritis or autoimmune disease
- Pregnancy or breast-feeding
- Malignancy
- Unstable medical or psychiatric illness or medication use.
- Any condition interfering with exercises (cardiac/respiratory/orthopedic issues)
- Patient’s already undergoing some exercise therapy (pilates/gym/zumba) in last 6 months

The participants were asked not to use any myorelaxants, and non-steroid anti-inflammatory drugs 3 days prior to start of therapy and during the treatment sessions and the evaluation process after the treatment.

Recruitment Procedure

A total of 47 women were eligible for entry into the study, 5 participants were excluded due to co-morbidities and were part of another physical therapy and 2 participants declined to take part due to their prior commitments. The 40 patients who met the

inclusion criteria were allocated randomly in two groups - Exercise + Siddha with energy sessions (n=20) and Exercise alone (n=20) groups. The treatment was scheduled for 5 days a week for 6 weeks for both groups. Group randomization was based on a computer-generated random number allocation, and even the researcher who was involved in the day-to-day running of the trial, was unaware of the randomization sequence until the baseline assessment were completed (Figure 1).

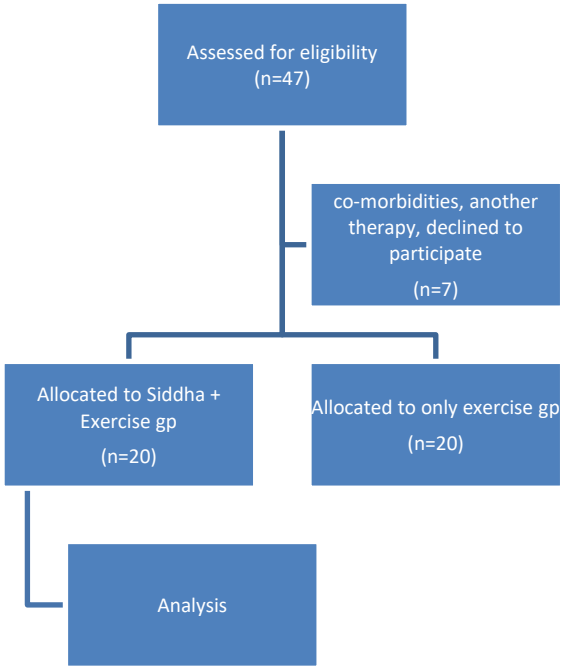

Figure 1 Flow chart diagram for the participants

Assessment Measures

All trial patients were subjected to initial assessment at the Physical department at Chakrasiddh Centre. At beginning, details of demographic information, physical characteristics (weight, age, height, BMI, habits), clinical details of medications and previous therapy taken was noted. The physical activity of participants was measured by International Physical Activity Questionnaire-7 (IPAQ-7) at start [5]. Evaluations related to pain intensity, fatigue, sleeping disorder, health status and quality of life were noted. Assessment of all outcomes was undertaken at start (before randomization) and after the 6-weeks intervention of therapy program. For both groups the outcome assessor was blinded to group allocation throughout.

Visual Analog Scale (VAS)

Assessment of variables like pain, fatigue and sleep problem were performed with the VAS. The reliability of this scale was determined by Clark *et al.* [6]. The participants were asked to mark the intensity of pain, fatigue and sleep problem on the VAS scale. The 10-cm long horizontal line, depicted 0 as no pain and 10 as unbearable pain for pain evaluation. For fatigue evaluation 0 indicated no fatigue and 10 marking indicates intolerable fatigue and for sleep 0-10 shows refreshing sleep and non-refreshing sleep simultaneously.

Fibromyalgia Impact Questionnaire (FIQ)

The health status of the patients was evaluated using the Fibromyalgia Impact Questionnaire (FIQ) [7]. The FIQ is 10-items self - administered questionnaire developed for patients having FMS. The questionnaire focuses on assessing patients physical impairment, number of days felt good and the days of work missed, also questions related to pain, fatigue, morning tiredness, stiffness, anxiety, and depression. FIQ total score value ranges from 0 to 100, and higher score indicates a greater impact of the FMS.

Health related Quality of Life

Short Form (SF-36) was used to assess the quality of life of FMS patients with scores between 0 (worst score) - 100 (best score) [8]. This contains 36-questions pertaining to: physical functioning, role limited, physical health, body pain, social functioning, emotional health causing role limitations, mental issues, general health perceptions and health status over time.

Interventions

The participants were advised to stop any medications they were taking during the 3-week course of therapy for standardization. Both groups- Siddha manual therapy (varmam, thokannam, energy sessions) + exercises and exercises only (n=20) each were intervened with the said programme for 5 days a week for 3 weeks' duration.

Siddha Manual Therapy (Varmam+ Thokannam+ Energy sessions)

The therapy was given for 45 minutes to the intervention group participants. Thokkanam is a therapeutic pressure stroke/ massage technique within Siddha medicine, using various hand movements to stimulate circulation, relieve pain, and promote relaxation. Thokkanam techniques can help ease muscle tightness and support mental relaxation, which are essential for managing fibromyalgia symptoms. Azhutham (Pressing), Izhutham (Stretching), Thadavu (Rubbing), and Pidithal (Holding and Releasing) are different techniques done gently for limited time period (12 minutes-15 minutes) to achieve favourable results. Varmam therapy may help alleviate pain, reduce stiffness, and improve circulation by stimulating certain points to encourage energy flow (prana or vital energy). Participants of intervention group underwent therapy on varmam points that were focused on fibromyalgia relief as mentioned in and were given 2-energy sessions in all for 10 mins duration in 2nd week and 3rd week for removing blockages (Table 1).

Table 1 Various Varmam points for FMS

Name of Varmam point	Location	Duration (in minutes)
Kaichal Varmam	Found on the shoulders.	4 minutes -5 minutes
Ottu Varmam	Located around the neck and cervical spine	5 minutes
Soothi Varmam	Found near the wrists and forearms	3 minutes-4 minutes
Pada Varmam	Located at the bottom of the feet and near the ankles	4 minutes
Moolathara Varmam	Near the base of the spine, including the tailbone	3 minutes
Kandha Varmam	Found around the chest, collarbones, and shoulders	2 minutes-3 minutes
Thilartha Varmam	Located near the temples on the sides of the forehead	3 minutes-4 minutes
Nadi Varmam (Energy Pathway Points)	Various points along the energy pathways of the body	5 minutes
Total therapy period		30 minutes-35 minutes

Exercises

Both group participants were allotted 35 minutes-40 minutes of exercises for 3 days a week for 6 weeks with trained physical therapist. Sessions began with educating participants for correct spinal postures by placing patients in standing position and correcting their walking style to enhance the spine curvatures [12]. Each exercise program composed of 10-mins warm-up exercises, 15-mins aerobic and strengthening exercises, 10-min Kaya-karpam or mild stretching exercises for neck, trunk, upper and lower limb muscles and with 5-mins of breathing exercises to de-stress [13].

Statistical Analysis

For the statistical analysis, the SPSS version 11.5, including descriptive statistics was utilized. Data were presented as mean (± SD) for the normally distributed variables in the text. Numeric variables related to age, BMI, IPAQ-7 scores were assessed using the independent sample t-test and Mann-Whitney U test respectively. The Wilcoxon rank test was used to analyze the outcome of pain, fatigue, sleep disorder, health status and quality of life scores obtained before and after the treatments for each group. Scores of pain, fatigue, sleep issue and quality of life were analyzed between the groups by Mann-Whitney U test. The P-value was set less than 0.05 which was considered of statistical significance.

RESULTS

Total forty-seven women with FMS were assessed for the study but only forty patients were found to be eligible. The flow chart of participants is shown in (Figure 1). During study, no adverse events were recorded and all 40 participants completed the therapy and exercise program. There was no difference between the groups on basis of their physical characteristics ($p>0.05$) (Table 2). On start, both group participants had not much difference in scores of pain, fatigue and sleep disorders, health status and quality of life (Table 3). Significant improvements were observed in both groups (siddha therapy+exercise0073 and exercises only), but patients given Siddha manual therapy (varmam, thokkanam, energy sessions)

with exercises showed better improvements in all variables as compared to patients intervened with exercise alone.

In the Exercise + Siddha therapy group, all variables: pain ($p<0.05$), fatigue ($p<0.05$) and sleep problem ($p<0.05$) decreased, health status and quality of life (scores of SF-36) improved ($p<0.05$). In exercise alone ($p<0.05$), pain, fatigue and sleep problem reduced but health status (the scores of FIQ-1 and FIQ-10), and quality of life (bodily pain, physical functioning, limitations due to physical health, emotional health, vitality, and general health perceptions parameters) showed lesser improvements ($p<0.05$). The quality of life sub-items of social functioning and mental health did not show much difference (Table 4). The intergroup comparison showed much better improvement in Siddha manual therapy + exercises in parameters like pain, fatigue, sleep issues and role limitations due to physical health related to quality of life. The other parameters did not show much difference in both groups (Table 5).

Table 2 Physical characteristics of participants

Physical characteristics	Siddha + Exercise gp (n=20)	Only Exercise (n=20)	p Value (p>0.05)
Age (yrs, X ± SD)	41.4 ± 8.2	44.8 ± 9.4	0.215*
BMI (kg/m^2 , X ± SD)	23.6 ± 3.6	24.3 ± 3.4	0.478*
IPAQ-7 Score (Median)	412	398	0.167**
X- Mean, SD- Standard Deviation, BMI- Body Mass Index, IPAQ-7 International Physical Activity Questionnaire-7,*- Independent sample t-test, **- Mann-Whitney U Test			

Table 3 Difference in items (pain, fatigue, sleep, health status) of participants pre and post-intervention

	Siddha Therapy + Exercises (n=20)			Exercises only (n=20)		
Items	**Before**	**After**	**p-value**	**Before**	**After**	**p-Value (p<0.05)**
Pain (VAS)	8.2	2.1	<0.001*	8.5	3.7	<0.001*
Fatigue (VAS)	7.9	4.5	<0.001*	8.1	3.9	0.002*
Sleep issue (VAS)	6.7	2	<0.001*	7.3	2.4	0.001*
Health status (FIQ)						
Physical Impaired	5.1	2.8	0.031	6.3	4.2	0.303*
Days felt good	7.2	3.4	<0.001**	8.1	3.9	0.066*
Work missed	5.5	1.7	0.004	4.8	2.3	0.043*
Work impaired	8.1	2.5	<0.001**	7.7	3.3	0.011*
Pain	8.5	1.9	<0.001**	9	3.5	0.001**
Fatigue	7.9	2	<0.001**	7.4	3.7	0.031*
Morning tiredness	8.7	3.1	<0.001**	7.9	4	0.001**
Stiffness	6.9	2.5	<0.001**	6.4	3.1	0.001**
Anxiety	7.5	3.3	0.027	7.2	4.2	0.005*
Depression	6	3.7	0.009	6.8	4.5	0.256*
*- Wilcoxon test **Highly significant value, VAS- Visual Analog scale; FIQ- Fibromyalgia Impact questionnaire						

Table 4 Difference in quality of life of participants pre & post intervention

	Siddha Therapy + Exercises (n=20)			Exercises only (n=20)		
Quality of life SF-36	**Before**	**After**	**p-value (p<0.05)**	**Before**	**After**	**p-Value (p<0.05)**
Physical functioning	48.2	73.1	<0.001**	48.5	63.7	0.009*
Role limitations due to physical health	17.9	84.5	0.006*	18.1	73.9	0.019*
Bodily pain	56.7	82	<0.001**	47.3	62.4	0.005*
Social functioning	63.7	77.9	0.003*	50.1	67.8	0.029*
Mental health	55.1	72.8	<0.001**	36.3	54.2	0.013*

Role limited due to emotional health	27.2	98.4	0.005*	38.1	63.9	0.048*
Vitality	37.1	68.4	<0.001**	31.6	60.6	0.004*
Health perceptions	41.8	71.1	0.001**	34.5	66.9	0.016*
*- Wilcoxon test, **Highly significant value,						

Table 5 Comparison of differences of both groups before and after the program

Parameters	Siddha + Exercise gp (n=20)	Only exercise (n=20)	p value* (p<0.05)
Pain (VAS)	2.59 ± 2.05	1.49 ± 1.19	0.005*
Fatigue (VAS)	3.82 ± 2.47	2.76 ± 1.41	0.048*
Sleep issue (VAS)	4.38 ± 8.26	4.44 ± 8.66	0.017*
Health status (FIQ)			
Physical Impaired	1.92 ± 1.51	1.19 ± 0.58	0 .394
Days felt good	2.86 ± 1.97	2.40 ± 1.28	0.076
Work missed	0.31 ± 1.05	0.34 ± 0.74	0.063
Work impaired	2.20 ± 1.48	2.46 ± 2.25	0.074
Pain	2.60 ± 1.48	3.46 ± 2.25	0.027*
Fatigue	2.76 ± 1.41	3.82 ± 2.47	0.039*
Morning tiredness	4.28 ± 2.67	2.36 ± 1.51	0.050*
Stiffness	2.38 ± 1.75	3.46 ± 2.67	0.17
Anxiety	1.62 ± 1.34	3.66 ± 2.79	0.006*
Depression	1.52 ± 1.31	2.86 ± 2.36	0.662
Quality of life (SF-36)			
Physical functioning	9.19 ± 10.79	12.86 ± 13.18	0.338
Role limitations due to physical health	6.37±1.09	9.07±2.27	0.033*
Bodily pain	9.66 ± 9.78	14.10 ± 13.90	0.047*
Social functioning	3.20 ± 7.56	3.34 ± 9.68	0.422
Mental health	4.44 ± 8.66	4.38 ± 8.26	0.397
Role limited due to emotional health	7.28 ± 9.75	1.38 ± 3.26	0.109
Vitality	0.74 ± 1.66	5.88 ± 6.29	0.076
Health perceptions	4.94 ± 3.06		0.091
*- Wilcoxon test			

DISCUSSION

Fibromyalgia can be compared with Vatha Soolai in the Siddha system of medicine. Though, there are not too many clinical studies on fibromyalgia in siddha medicine, but studies have revealed improvements in variables like pain, joint mobility, and physical functioning and others have stressed on decreasing stress, depression and fatigue in many other conditions with siddha therapy that were highlights of our study too.

Fibromyalgia is associated with chronic widespread pain involving atleast 8-12 points in body and so called as FMS. It is known that Fibromyalgia is most common in females and worldwide its prevalence rate is between 0.9%-5% [1]. The mentioned study participants who met the criterion of study, were all females since 94.5% of patients who visited centre for treatment were females and a maximum of them were between ages 30 years and 45 years which is in adherence with other studies [17,18]. On taking a thorough medical history, the etiology of FMS was unknown in participants but thirty-eight out of forty participants (97.6%) had issues with sleep and mental distress causing anxiety and depression and had a very low quality

of life [19]. Almost 82% of participants had already taken some form of CAM in the last 2 years due to continuous severe pain in the body and for improving quality of life. In this study, most people fall within the 18.5-27.9 BMI range, i.e., between normal and overweight, and most of them were from good families and were employed. In the SF-36 form for determining quality of life, least improvement was observed in both the groups in role limitations due to emotional health, physical health and social functioning (though the values were significant) leading to a high negative impact on the quality of life in fibromyalgia patients highlighting the importance of cognitive therapy for patients.

Siddha, an ancient Indian medical system, offers various approaches for managing health issues related to musculoskeletal and autoimmune diseases by holistically treating them [9]. Varmam, a physical manipulation therapy within Siddha medicine, focuses on 108 energy points along 12 channels in the body and has potential applications for various health concerns especially related to musculoskeletal disorders with effective results. The therapy is particularly effective in pain management, as it correlates with the brain's opioid system and analgesic pathways [20]. For ankylosing spondylitis, Varmam points therapy done for 22 days, showed positive results in reducing pain, stiffness, and improving mobility [18]. Incorporating Siddha Varmam and Energy sessions have shown promising results in treating chronic musculoskeletal conditions, and autoimmune diseases like Rheumatoid Arthritis [15]. A systematic review and meta-analysis conducted for lumbar spondylosis examined the effectiveness of Siddha therapy with marma chikitsa or energy therapy in reducing musculoskeletal pain. These studies demonstrated significant pain reduction, flexibility and improved quality to life in patients treated with these traditional approaches [21]. While primarily used in adult populations, Siddha external therapies, including Varmam and Thokkanam, are also documented for pediatric use in treating various conditions like neurological and psychiatric disorders offering a valuable alternative or complementary approach to conventional treatments for these conditions [22]. In the case of Duchenne Muscular Dystrophy (DMD), Siddha therapy combined with physiotherapy exercises led to significant improvements in mobility, strength, and daily activities [23,24].

Siddha pressure therapies combined with 30-minutes exercises and yoga have shown effectiveness in treating spinal issues, reducing pain and improving mobility. Siddha Samadhi Yoga, which incorporates meditation and pranayama, has demonstrated significant reductions in anxiety, depression, and tension symptoms. In another study, 25 participants were made to practice routine stretching exercises and yoga asanas along with siddha therapy for management of Thandagavatham (Lumbar Spondylosis). The results showed that combining siddha with yoga proved helpful in controlling patient’s mind, body, and soul; it helped in managing stress and anxiety and also increased flexibility, muscle strength and body tone [14]. In another study, 20 patients were given Kaya Karpam, Siddha's rejuvenation therapy, with mild and gentle exercises focusing mainly on slow stretching and promoting circulation in fibromyalgia patients [16]. Mentioned studies highlight the diverse therapeutic approaches within Siddha medicine, with comprehensive exercises, yoga, physical manipulation, and breathing techniques, which show promise in addressing contemporary health issues.

In our study, group who was given exercise alone; pain, fatigue and sleep problem reduced but scores of health status and quality of life sub-items (bodily pain, physical functioning, limitations due to physical health, emotional health, vitality, and general health perceptions parameters) showed lesser improvements in comparison to the other group who received both siddha therapy and exercises; which is in synch with other studies [3]. Some studies projected exercises had a role in reducing pain, anxiety, and quality of life in FMS but there was no relief in sleep and depression [25]. In another study, connective tissue massages (corresponding to a form of siddha pressure therapy) with exercise program showed much better improvement than only exercises highlighting importance of muscle strengthening and better blood circulation in case of massages than only exercises. It also showed increased flexibility, and increasing health status, quality of life and muscle strength in patients with FMS. Furthermore, some studies indicated that pressure massages have beneficial influences on decreasing stress by acting on sympathetic nervous system activity, hypothalamic-pituitary adrenocortical activity and stress hormones [26,27].

Overall improvement in FMS patients after Siddha treatment with exercises was 78% and only exercises was 56%. For this particular study, both Siddha manual therapy with exercises and exercises alone appeared to yield improvements in decreasing pain, fatigue and sleep issues along with increasing health status and quality of life in patients with FMS. However, Siddha therapy with exercises was found to be more effective than exercises alone according to some sub items of FIQ in improving more health status and quality of life as compared to exercise alone showing better output in siddha and exercise group due to incorporation of siddha manual therapy. Consequently, combined treatment including exercises with siddha manual therapy might be superior in treating FMS patients with severe pain, fatigue and sleep problems, and limitations due to physical health.

However, further adequately powered trial is required to determine this with certainty.

CONCLUSION

Fibromyalgia, characterized by widespread musculoskeletal pain and heightened sensitivity, often involves a complex interplay of physical, emotional, and neurological factors. Siddha medicine, with its emphasis on restoring balance and harmony in the body, could offer an integrative solution to FMS patients. The study highlighted the incorporation of traditional siddha therapy with exercises showing effective results in reducing pain, fatigue, sleep issues while enhancing the health status and quality of life in patients with FMS as compared to only exercise participants. The traditional therapy of Siddha (varmam and thokkanam) with energy therapy showed no side effects, are economical and reduces the usage of any medicines and the study proved it to be an alternative option in cases of patients with Fibromyalgia. The outcomes of VAS and FIQ scores manifest to the therapy's dependable benefits and its potential as a preferred treatment for management of Fibromyalgia.

Though, the therapy was done on smaller population but the same can be assessed in a larger sample to evaluate the efficacy of holistic Siddha approach in the patients of FMS. Rigorous clinical trials are needed to establish the safety of Siddha therapies, and standardized protocols to be formulated for energy medicine, varmam therapy, and detoxification treatments. Greater efforts are needed to educate patients and healthcare providers about Siddha's potential, ensuring accessibility and affordability. Researchers need to deeply investigate the biochemical effects of energy sessions on inflammation and pain pathways, studying the neurophysiological impact of varmam therapy on pain perception and stress responses leading to broader acceptance by the scientific world. Continued research and integration into multidisciplinary care could unlock its full potential for improving the lives of fibromyalgia patients.

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