Current Scientific Research in Biomedical Sciences
ISSN: 2689-6044

Academic Strive
Researcher's perception is our reality

Research Article *Volume 6 Issue 1*

Comparative Study of Managing Plantar Fasciitis by Integrated Siddha Varmam and Energy Healing to Conservative Treatment

Sindhuja BS[1], Sankar I[2], Reddy RM[3] and Tiwari S[3]*

[1]Patron, Dept of Siddha Medicine, Chakrasiddh Health Centre, India

[2]Chief Healer, Dept of Siddha Medicine, Chakrasiddh Health Centre, India

[3]Consultant Dr, Dept of Siddha Medicine, Chakrasiddh Health Centre, India

***Corresponding author:** Tiwari Shweta, Dept of Siddha Medicine, Chakrasiddh Health Centre, India, Email: shweta11_in@yahoo.com

Received Date: August 01, 2024; **Published Date:** September 16, 2024

Abstract

Background: Plantar Fasciitis (PF), one of the major causes of heel pain, is symptomatically correlated with the Siddha diagnostic term Kuthikaal Vatham. It is mostly seen in obese patients, those with standing occupation or any injury in heel area and is characterized with intense pain especially the first few steps in the morning often persisting for months.

Methods: The present study was conducted in Chakrasiddh OPD. A total of 40 patients between 18 and 50 years age with the complaint of painful heel were selected and were ranmdomly divided into two groups of 20 each. Group A (experimental group) were subjected to Siddha varmam therapy incorporating marma chikitsa (Energy sessions) and Group B (control group) were continued with standard conservative care (NSAID's) for 18 days. Both groups were assessed by the VAS for pain perception and Functional foot index (FFI) of ankle joints before and after intervention of treatment. The intervention outcomes measured pain, mobility and functionality, assessed at baseline and after the treatment period. Statistical analysis of the data was done by using a paired t-test and independent t-test. The probability level or p-value for statistically significant differences was set at $p<0.05$.

Results: Both group showed relief in symptoms of PF; however, Group A (experimental) showed more improvement in all symptoms and the recurrence of pain was not reported till date of follow up. In the comparison of both groups, it was found out that the mean values of VAS (t= 11.35) and FFI (t= 21.85) of the experimental group (Group A) was highly significant ($p<0.05$).

Conclusion: Siddha Varmam therapy with energy sessions significantly improved pain, mobility and
Functionality in patients, establishing a feasible and viable alternative method to conventional therapy in treating PF. The outcome of this study supports the therapy's potentiality as a holistic treatment to PF along with more economical and non-invasive method.

Keywords: Plantar Fasciitis; Kuthikaal Vatham; Varmam Therapy; Energy Medicine; Pain Management

Abbreviations

PF: Plantar Fasciitis; VAS: Visual Analogue Score; FFI: Functional Foot Index: BMI: Body mass index.

Introduction

Plantar fasciitis is a painful condition where the tissue connecting the heel to toes, called the plantar fascia, becomes

Copyright © 2024 Sindhuja, et al.

inflamed or irritated. The most projecting feature of PF is the typical stabbing pain in the medial part of the heel. Bilateral presentation of pain is also common. Characterized by increased fascia tightness, it causes reduced joint motion capability, muscle strength, and soft tissue extensibility [1]. PF is found predominantly in obese individuals, young athletes and female adults [2]. It's predominance in women is majorly due to obesity and a consequence of wearing narrow high heeled shoes. It mostly occurs due to increased weight, standing occupation or any injury to foot heel area. PF causes difficulty in regular activities like standing, walking and running and is characterized by progressive intense heel pain, usually most pronounced with the first steps in the morning often persisting for months [3]. Incidence of PF is about 12% of the population worldwide and about 84% of these patients are between the age of 25-60 years [4]. The conservative treatments, ranging from NSAID's, steroid injections to surgery, are invasive and come with risks and side effects, often patients end up with more of hospital stay and high economical expenses [5]. The heel pain start with weight bearing period especially after waking up in the morning or after a period of rest. The pain subsides for a while and returns as the day progresses with extended time.

Heel pains are more or less symptomatically correlated with the Siddha diagnostic term Kuthikaal Vatham. Siddha literature and writings describes Kuthikaal vatham being caused by repetitive strain injury to the ligament of the sole, strain injury during excessive walking or running, wearing inappropriate foot wears, obesity, and prolonged standing or walking on uneven surfaces [5]. The major symptoms include pain and swelling in the plantar area, sometimes associated with numbness and tingling sensation [6]. Siddha's holistic approach, aims to ease pain, enhance mobility, reduce inflammation, and improve overall functionality, bypassing the adverse effects and offering a sustainable alternative to NSAIDs [7]. This therapy targets the root cause of the issue and processes like physical manipulations and traditional remedies, helps in contributing to better daily functioning and physical activity.

According to Siddha pathogenesis, PF is explained by increased Vatham altered with Kabam/Pitham causing an imbalance or disruption of the energy points. This leads to a disease or a condition, prompting the primary aim of Siddha therapy to restore equilibrium within the body through various therapeutic modalities. Among these modalities, Varmam pressure therapy used in Siddha external therapy integrated with Energy sessions was found effective for treating heel pains and other musculoskeletal disorders [8]. Varmam refers to points all over the body where the pranic (life) energy remains congregate. Such points or many other points when manipulated therapeutically produces curative effects in many diseased conditions. Incorporating energy sessions in Siddha treatment, works on stimulating Varmam points to improve energy flow, leading to the natural balance and harmony within the body [9].

Marma Chikitsa or energy sessions, is a traditional therapeutic practice in Siddha healing that involves the application of touch to specific energy points, known as marma points or energy blockages, in the body [10]. It is believed by Siddhars that individual thoughts, incidents, past trauma or known person's acquaintances may be carried in form of energy blockages and can lead to health disorders. Some consider these points as places where physical, emotional, and spiritual energies converge, and by manipulating them, siddha practitioners aim to restore balance and harmony within the body-mind complex [10]. Many Siddhars had the sense to visualize these energy disbalances in humans and use to treat with their touch, this pressure motivates healing cells in body, thus relieves the pain, improve the circulation, removes toxins, decrease stress, increase relaxation, alleviates muscle tensions and overall general wellness of the patient [11]. Beyond physical benefits, Siddha's comprehensive approach significantly boosts patients' mental well-being, stress levels, and vitality, marking a stark contrast to the limited scope of NSAIDs that focus solely on pain management without addressing the broader spectrum of health and well-being [12]. This randomized control study examines the effects of Siddha therapy with energy sessions on the PF patients in comparison to patients who are on NSAID's with respect to pain reduction, mobility and functionality.

Research Methodology

Research Design

The randomized control study evaluates the effectiveness of Varmam therapy with energy sessions in individuals with diagnosed PF, confirmed by radiographic evaluation and Windlass Test. The present study was conducted in Chakrasiddh OPD, a Siddha centre between Sept 2023 to Mar 2024, which is chosen due to its expertise and facilities for administering the therapy. Prior to the participation, written and informed consent was taken from each subject [13]. The study proposal had been accepted by the ethical committee and the samples were collected from Chakrasiddh OPD, Dept of Siddha Medicine. Patients diagnosed with plantar fasciitis who satisfied the inclusion and exclusion criteria were enrolled in our study [14].

Inclusion criteria

- Adults with chronic pain (>90 days) from previously diagnosed plantar fasciitis, confirmed through radiographic evidence.
- Willingness to participate in either the Siddha Varmam therapy with energy sessions or follow a regimen of

NSAIDs as per the group allocation.

- Ability to understand consent form for participation in the study.
- subjects having pain at the first step in the morning at least 2-5 VAS scale score

Exclusion criteria

- Any history of steroid injection
- H/O any surgery in the affected lower limb, implant in knees or ankles
- Any other systemic or pathological disorder (Diabetic neuropathy) that can cause pain in the heel
- Patients having painful hip or knee
- Having BMI > 25
- Pregnant women.

Participants: A total of 40 patients, both male and female patients with age ranged between 18 and 50 years, with the complaint of painful heel, having symptoms of moderate to severe intensity with minimum duration of 3 weeks were included in the study. If patient was having Bilateral plantar fasciitis, the foot with the maximum intensity of pain was considered the study foot. The patients underwent randomized allocation into two treatment groups using computer-generated method: the experimental Group A, (n = 20) Siddha varmam therapy incorporating energy medicine sessions, control Group B (n = 20) were continued with standard conservative care (NSAID's) for 18 days.

Ethical Review and Consent: The subjects were asked to give written and verbal consent during the initial assessment and prior to each session. Consent included privacy and disclosure agreements, risks, benefits, clinical findings, treatment plan and objectives, and right of refusal. The ethics committee of institute approved for the study to be conducted on said patients who willingly consented for being subjects.

Data Collection

The study aimed to weigh changes in VAS and FFI scores before and after intervention of the treatment. Pain was measured using the VAS pain score which has been established as reliable and valid [8]. The patient rated pain from zero to ten, zero being no pain and ten being the worst pain. The FFI is a 23-question self-reporting survey measuring the effects of pain, disability, and activity limitations of foot pathologies. The FFI has been recognized as reliable and valid [6,9]. Both groups were assessed for FFI of ankle joints to know the baseline scores of pain, disability, and restrictions in activities of daily living each item evaluated on a scale of 0-10.

Statistical Analysis

Data were analyzed using SPSS version 20.0. Both groups were assessed by the VAS for pain perception and FFI of ankle joints before and after going through therapy. Statistical analysis of the data was done by using a paired t-test and independent t-test samples to evaluate whether significant difference existed between pre and post intervention scores of different groups. The probability level or p-value for statistically significant differences was set at $p<0.05$.

Intervention

The patients in Group A were subjected to Siddha Varmam therapy for 35-40 minutes each day along with special energy sessions (10 minutes on 6^{th} and 12^{th} day) during whole treatment.

Siddha varmam therapy and its stimulation: Specific techniques which can stimulate the Varmam points (points where the pranic energy remains in abundance) by pressing (Amarthal), massaged (Thadaval) and tapped (Thattal) were incorporated. In pressing (Amartthal) a specific pressure is applied with fingers on Varmam points, for alleviating the problems on surface which arise due to pressures. In Massage (Thadaval), there are different types of techniques that are utilized eg. clockwise, anticlockwise, rotatory movements with fingers, stretching the fingers from one Varmam point to the other points or regions of the body. This improves the blood circulation and increases the chances of healing faster. In tapping (Thattal) both hands are used to stimulate varmam points. While using the hand, palmar or dorsal sides of hands are used. Tapping can be done with mild, moderate and strong pressures. These techniques are determined by locations for certain time period (Figure 1, Table-1).

Figure 1: Various Varmam points on the heels.

S.No	Varmam Point	Location	Technique	Duration
1	Kuthikaal varmam	Seven fingerbreadths above the heel (posterior aspect)	Place the 3 middle fingers and press the point (amarthal)	4 mins
2	Melmannai varmam	Upper end of the calf muscle (posterior aspect)	Using middle finger press the point and take it downwards towards the ankle (both amarthal & thadaval)	3-4 mins
3	Keelhmannai varmam	Lower end of the calf muscle (posterior aspect)	Press the point with thumb and take the pressures upwards (both amarthal & thadaval)	5 mins
4	Komberi kaalam	Eight fingers above the medial malleolus	Place the tips of middle 3 fingers over the point. Take it towards the medial border of tibia (both amarthal & thadaval)	5 mins
5	Kanpugaichal varmam	One fingerbreadth below the lateral malleolus	Place the tips of the three fingers of hand above the malleolus and glide downwards around the malleolus pressing the exact point (both amarthal & thadaval)	6 mins
6	Kalkulasu	Anterior part of junction of foot and leg	Place the central part of the thumb at the point described; press and release three times (amarthal & thattal)	4 mins
7	Nanganapottu varmam	Sacral Groove, Three Fingerbreadths From The Lumbosacral Joint (Lateral Aspect)	Using mid of thumb at the point, do external rotations at sacral groove, glide to reach ant sup illiac spine and finally clockwise rotation on ant superior illiac spine (marma chikitsa)	7 mins

Table 1: Details of Varmam points stimulated in PF.

Siddha marma chikitsa (energy sessions): Therapeutic pressure point clearance also called blockages/physical knots related to stress, trauma or emotional issues are released by practitioners by feeling, pressing them and clearing them. This technique was used to Group A (experimental) once or twice for 10-15 minutes in complete therapy depending upon the individual's response.

Conventional Treatment

Patients in Group B were advised to continue their pain killers as suggested by their GP's (75 mg Indomethacin/ ibuprofen-200 mg) once a day for the maximum period of 3 weeks. Patients allergic to Indomethacin were prescribed Diclofenac 100 mg on discussing with their respective GP. Both group subjects were advised to soak foot in warm salt water in evening after the dinner during the complete therapy period.

Results

Both groups showed relief in symptoms of PF; however, Group A (experimental) showed more improvement in all symptoms and the recurrence of pain was not reported till date of follow up. However, 5 patients in Group B left using medications due to acidity and had recurrence of pain during followup after 3 months. In the comparison of both groups, it was found out that the mean values of VAS ($t= 11.35$) and FFI ($t=21.85$) of the experimental group (Group A) was highly significant ($p<0.05$). This improvement was consistent across all evaluated domains, including pain, mobility, and functionality. In contrast, the control group, despite being on medication, did not show any significant changes from baseline across these domains, with the exception of pain. In this study, out of total 40 subjects, 29 (72.5%) were females and in the experimental group they were 16 out of 20 (Figure 2). The mean age of Group-A was 40.65 ± 3.80 and in Group-B was 42.50 ± 3.22 years (Table 2, Figure 3). There is no significant difference in mean age between these two groups.

	Group A (n-20)	Group B (n=20)
Mean Age group	40.65 ± 3.80	42.50 ± 3.22

Table 2: Demographic information.

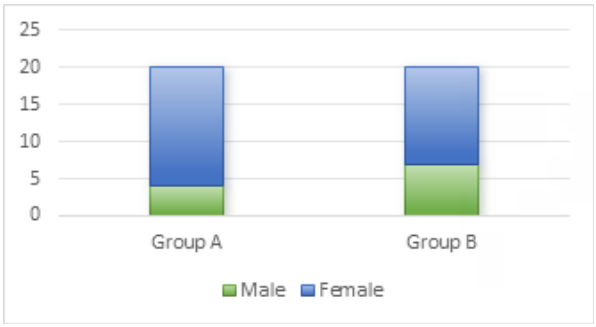

Figure 2: Distribution of Male and Female in Group A & B.

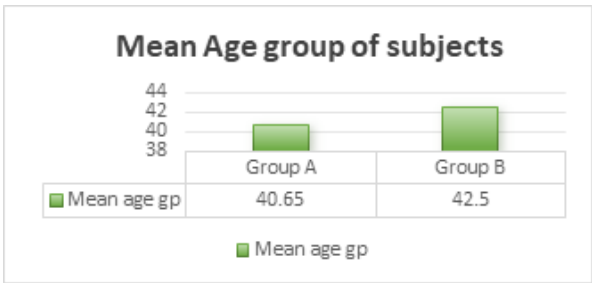

Figure 3: Mean Age group of subjects.

Intra-group analysis of Group A and Group B for VAS and FFI

The statistical interpretation depicts that pain variable decreases in both groups but Group A (experimental) had better results as compared to Group B (control). In the case of VAS, it was found that in Group A, t=11.35, which is highly significant (p=0.002) and for Group B, t=7.33, which is also significant (p=0.017). On comparing interventions of both groups, Group A (Siddha varmam therapy with energy sessions) is more effective in decreasing pain than Group B (only conservative treatment) though, there is not much of difference in values. The intra-group analysis of VAS scores is depicted in the table (Table 3). In the case of FFI, an increased functional ability with values t=21.85 in Group A and t=17.33 in Group B was seen, both are highly significant (p<0.05). However, the comparative results concluded more enhancement of functional ability in Group-A than Group-B. Therefore, patients in experimental Group with PF showed Siddha Varmam therapy with energy sessions more effective in increasing their functional ability.

The study utilized a paired t-test to see the difference of all outcomes (VAS and FFI) before and after employing of therapies, i.e. on 1st and the 18th day. An Independent t-test was performed to compare among both groups, i.e. between the experimental group (Group A) and the control group (Group B). The tests were carried out separately for VAS and FFI. For VAS, t=11.35 which is highly significant (p=0.002). It has been suggested that VAS decreases more when siddha therapy has been applied. To see the difference of means of FFI, t=21.85, which is highly significant (p=0.005) implying that FFI decreases more when siddha varmam therapy with energy sessions has been applied compared to the conventional treatment. The results interpretation shows in both pain management and functional ability enhancements, siddha varmam therapy with energy sessions proved more beneficial in terms of VAS and FFI in case of range of movements or mobility though pain variable was equally managed well by conservative treatment.

Discussion

The study aimed to assess the efficiency of Siddha Varmam therapy with energy sessions, a traditional Indian medical practice, in improving pain, and functionality in patients with Plantar Fasciitis. The results showed that the experimental group (Siddha Varmam therapy with 2 energy sessions) as compared to control group (conventional medicines), had significant enhancements in the FFI score, the VAS for pain, and the clinical assessments of range of motion and flexibility in ankles (Tables 3 & 4).

Group (n=20)	VAS	Mean ± SD	t	df	P (p<0.05)
Group A	Pre Treatment	4.37 ± 0.44	11.35	15	0.002
	Post treatment	1.24 ± 0.71			
Group B	Pre Treatment	4.12 ± 0.74	7,33	15	0.017
	Post treatment	2.67 ± 0.62			

Table 3: Group analysis within groups of Group-A and Group-B of VAS.

Group (n=20)	FFI	Mean ± SD	t	df	P (p<0.05)
Group A	Pre Treatment	4.37 ± 0.44	21.85	11	0.005
	Post treatment	1.24 ± 0.71			
Group B	Pre Treatment	4.12 ± 0.74	19,33	13	0.02
	Post treatment	2.67 ± 0.62			

Table 4: Group analysis within groups of Group-A and Group-B of FFI.

These findings suggest that Siddha Varmam therapy can be an effective and safe alternative treatment for plantar fasciitis, as it can significantly reduce pain, improve joint mobility, and enhance quality of life in patients. Plantar fasciitis is a painful condition where the tissue connecting the heel to toes, called the plantar fascia, becomes inflamed or irritated resulting in severe pain at the inferior aspect of the heel, especially in the morning first few steps [2,3]. In modern science, the issue is managed by prescribing NSAIDs, administration of corticosteroid injections, and routine exercises [5,11].

But long-term outcomes are not received of these modalities. The present study has coherence with Biswas, et al. [14], in terms of recurrence of pain after discontinuation of oral NSAIDs after some gap as 5/20 patients in Group B stopped the pain killers and complained of same pain [12]. The study also confirms the PF's predominance in females over male patients (73%) which is in accordance with the study by Davis, et al. [10] and also Yucel, et al. [11], study where female patients were pronounced with more of heel pain (76.6% in females vs. 23.3% in males). This can be ascertained to factors like extended standing working hours, more usage of high heel footwear and habit of bare foot walking in women population in Southern part of Indian subcontinent [16].

Siddha way of holistic approach apart from some dietary advises, lifestyle modifications includes various cost-effective external therapies like manipulation methods (Thokkanam, Varmam), and some marma or energy sessions depending upon individual needs to work on points and release energy [13,15]. In present study we utilized the varmam therapy and marma chikitsa to rationalise Siddha's efficiency in cases of PF. The outcomes of this study are agreeable with previous studies that have reported the benefits of Siddha therapy for various health conditions. In a randomized control study by Ramaswamy, conducted in patients having osteoarthritis, 32 complained of heel pain associated with knees and found that Siddha therapy as an alternative to NSAIDs for pain diminution, joint mobility, and quality of life improvement in patients both in knees and ankles [17]. In another randomized controlled trail study by Mehta et al. which established that Siddha therapy had specific effects on ankle pain related to sciatica patients and reduced the dependency of conventional medicines [18]. Furthermore, Sreedhana reported a case study of a 45-year-old male patient, an athlete who had ACL tear of Rt knee with Rt heel pain. After 15 days of Siddha varmam therapy, the patient reported a 70% reduction in ankle discomfort and a noticeable increase in joint flexibility and a significant improvement in his ability to perform daily tasks [19].

In a clinical trial performed with Varmam therapy with photo adaptation or plain photo therapy for a period of 10-15 minutes/weekly twice on patients for 20 days proved to be highly beneficial for treating heal pains and resulted in clinical improvement in pain, stiffness, swelling, and range of motion in patients with Kuthikaal Vatham [20]. A feasibility study by Lipa, et.al, featuring an intervention and control group, compared the effectiveness of myofascial massage therapy with stretching exercises for pain management in patients with PF which can be understood by Thadaval (massage in Siddha) done at certain point to release the knots in this study, improving tenderness, swelling and pain directing to improved functions in the joints [21]. Furthermore, marma chikitsa (energy sessions) has garnered interest for its potential therapeutic benefits in musculoskeletal pain management. A systematic review and meta-analysis conducted by Thangapazham et al. examined the effectiveness of Siddha therapy with marma chikitsa in reducing musculoskeletal pain [22]. The other reviews of studies too found that pressure and strokes on energy points lead to their stimulation and resulted into significant improvements in pain intensity, functional disability, and quality of life compared to control interventions, suggesting its potential as a non-pharmacological approach to pain management which justifies the outcome of our study too [23-26].

These studies, along with the present study, provide enough evidence for the efficacy and safety of Siddha therapy for PF. Outcomes were also viewed in health-related quality of life, physical activities, general health & activeness, and overall mental health scale of the patients. This suggests that a holistic approach of siddha varmam technique with energy sessions provides better results in pain and functional disability in cases of plantar fasciitis with reduction of drug dependency.

Conclusion

Marked reduction in pain and refining functionality was noticed after the treatment by Siddha therapy amalgamated with energy sessions in the case of PF (Kuthikaal vatham) of 40 patients. Though, the therapy was done on smaller population but the same can be assessed in a large sample to evaluate the efficacy of holistic Siddha management approach in the patients of PF. These results highlight Siddha Varmam therapy as a holistic, cost-effective, less complicated, effective relief treatment that does not require surgeries or hospitalization and moreover, prevents from side effects of conventional treatment of NSAID's. The outcomes of VAS and FFI scores manifest to the therapy's dependable benefits and its potential as a preferred treatment for management of Plantar Fasciitis.

Hence, Siddha varmam therapy with marma sessions can be an acceptable alternative to contemporary PF modalities.

References

1. Thompson JV, Saini SS, Reb CW, Daniel JN (2014) Diagnosis and management of plantar fasciitis. J Am Osteopath Assoc 114(12): 900-906.

2. Rano JA, Fallat LM, Savoy-Moore RT (2001) Correlation of heel pain with body mass index and other characteristics of heel pain. J Foot Ankle Surg 40(6): 351-356.

3. Davis PF, Severud E, Baxter DE (1994) Painful heel syndrome: results of nonoperative treatment. Foot Ankle Int 15(10): 531-535.

4. Riddle DL, Pulisic M, Pidcoe P, Johnson RE (2003) Risk factors for plantar fasciitis: a matched case-control study. J Bone Joint Surg Am 85-A: 872-877.

5. Lim AT, How CH, Tan B (2016) Management of plantar fasciitis in the outpatient setting. Singapore Med J 57(4): 168-171.

6. Mischke JJ, Jayaseelan DJ, Sault JD, Kavchak AJ (2017) The symptomatic and functional effects of manual physical therapy on plantar heel pain: a systematic review. J Man Manip Ther 25(1): 3-10.

7. Martin RL, Davenport TE, Reischl SF, McPoil TG, Matheson JW, et al. (2014) Heel pain-plantar fasciitis: revision 2014. J Orthop Sports Phys Ther 44(11): A1-A33.

8. Fulgencio M, Schonning A (2017) Gait lines of persons with plantar fasciitis. J Manage Eng 10(2): 20-27.

9. Agel J, Beskin JL, Brage M, Guyton GP, Kadel NJ, et al. (2005) Reliability of the foot function index: a report of the AOFAS outcomes committee. Foot Ankle Int 26: 962-967.

10. Neufeld SK, Cerrato R (2008) Plantar fasciitis: evaluation and treatment. J Am Acad orthopSurg 16(6): 338-346.

11. Hawker GA, Mian S, Kendzerska T, French M (2011) Measures of adult pain: Visual analog scale for pain (VAS pain), numeric rating scale for pain (NRS Pain), McGill pain questionnaire (MPQ), short-form McGill pain questionnaire (SF-MPQ), chronic pain grade scale (CPGS), short form-36 bodily pain scale (SF-36 BPS), and measure of intermittent and constant osteoarthritis pain (ICOAP). Arthritis Care Res 63(S11): S240-S252.

12. Budiman-Mak E, Conrad KJ, Roach KE (1991) The Foot Function Index: a measure of foot pain and disability. J Clin Epidemiol 44(6): 561-570.

13. Yucel U, Kucuksen S, Cingoz HT, Anliacik E, Ozbek O, et al. (2013) Full-length silicone insoles versus ultrasound-guided corticosteroid injection in the management of plantar fasciitis: A randomized clinical trial. Prosthetics and Orthotics International 37(6): 471-476.

14. Biswas C, Pal A, Acharya AA (2011) Comparative study of efficacy of oral nonsteroidal antiinflammatory agents and locally injectable steroid for the treatment of plantar fasciitis. Anesthesia: Essays and Researches 5(2): 158-161.

15. (2009) Uthamarayan, Siddhar Aruvai Maruthvam, Department of Indian Medicine and Homeopathy. Chennai.

16. Sambasivam TVP (1931) Tamil-English Dictionary of medicine, chemistry, botany and allied sciences. The research institute of siddhars science, Madras, India (5).

17. Anaivaari RA, Subramaniya P, Jeyaraj P (2009) Pathartha Guna Cintamani. Department of Indian Medicine and Homoeopathy. Chennai.

18. Thyagarajan R (1997) Theraiyyartharu. Siddha Maruthuva Aarachi Nilayam. Chennai.

19. Ramaswamy RS (2017) Guidelines for practice of Siddha Varmam therapy. Central Council for Research in Siddha, pp: 62-71.

20. Piyush M, Vishwas D, Shivajirao K, Vividha D (2019) Contemporary acupressure therapy: adroit cure for painless recovery of therapeutic ailments. J Trad Comp Med 7(2): 251-263.

21. Sreedhana CR (2017) An open comparative clinical study on "Thandaga Vatham" (Lumbar Spondylosis) with

the evaluation of trial drugs “Naga Chendhuram”(Int) “Moolayoga Nirkundi Thailam” (Ext) and Varmam Therapy”. PhD dissertation, Government Siddha Medical College, India.

22. Vinayak S, Vindhya, Gayatri R, Wilson E, Rajkumar S et al. (2019) Management of Heal pain through Quantified Solar Therapy [QST] in Traditional Siddha Medicine: Two Case Reports. Int J Trans Res Ind Med 1(1): 12-19.

23. Lipa LY, Abhijit K, Abhijit D (2021) Effectiveness of Myofascial Release Technique with Stretching versus Myofascial Release Technique in Patients with Plantar Fasciitis. Int J of Med Res & Health Scs 10(1): 52-63.

24. Thangapazham R, Vijayabharathi R, Sukumar D (2018) Effectiveness of Siddha Thokkanam (Massage Therapy) in musculoskeletal pain: A systematic review and meta-analysis. Journal of Ayurveda and Integrative Therapy 9(3): 198-206.

25. Joshi, Kumar S (2010) Marma science and principles of marma therapy. 1st(Edn.), Vani Publications, Delhi, India, pp: 33.

26. Tong W, Wang X (2023) A comparative study on marma and accupoints, J Ayu and Int Med 14 (4): 100769.