

USING VARMA TREATMENTS TO IMPROVE THE PHYSIOLOGICAL VARIABLES PERFORMANCE OF SILAMBAM PLAYERS AFFECTED BY DIABETIC PERIPHERAL NEUROPATHY

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Abstract

Varmam is a branch of the Siddha Medicinal System that is still practised in southern Tamil Nadu and southern Kerala, especially in Kanyakumari. Varmakalai is a systematic study of varmam energy in martial arts and therapeutic applications. Varmam points are bio-energetic places where subtle vital energy flows and supports physiological functions in the body. At the intersections of nerves, vein (nadis), muscles, and bones, these spots can be found. Diabetic Peripheral neuropathy(DPN) is nerve damage caused by chronically high blood sugar and diabetes. It leads to numbness, loss of sensation, and sometimes pain in our feet, legs, or hands. It is the most common complication of diabetes. Study of varma therapy on selected silambam sportspersons with diabetic peripheral neuropathy without injury and improve nerve function and reduced DPN while varma treatment. Silambam has the potential to become a popular sports activity due to its simplicity, low cost, and capacity to improve all-important bio-motor functions To achieve the purpose of the study, 30 male diabetic peripheral neuropathy patients were selected from Chengalpattu district, India. randomly their age ranged from 35 to 70 years. Three groups were formed from the selected subjects. There were ten volunteers in each of the two experimental groups and one control group (n=10). Group I received a varma therapy programme with silambam practise, Group II received Silambam practise without varma therapy, and Group III received no practise for a 12-week training period, 3 days per week, an hour in the morning. The varmam points were kodaikolli varmam, Thilarthavarmam, Ottuvarmam, Manibandha Varmam, komberikalam, kuthikalvarmam, and ullankalvellaivarma energy storage points that covered certain energy routes or streams. Using Varma treatment improve the physiological variables performance of silambam players affected by diabetic peripheral neuropathy. Silambam Practices with Varma Therapy (Group-I) were significantly more effective than other two groups.

Keywords: Varma points, diabetes peripheral neuropathy, Silambam, Sports injury.

1. Introduction

Diabetic peripheral neuropathy is a condition that causes nerves in the legs and feet to become less sensitive to pain, temperature, and pressure. Peripheral neuropathy is nerve damage caused by chronically high blood sugar and diabetes. It

leads to numbness, loss of sensation, and sometimes pain in our feet, legs, or hands. It is the most common complication of diabetes1-3. The effect of varma therapy on selected silambam sportsmen with diabetic peripheral neuropathy's performance and nerve function

while receiving varma treatment .varmam is an ancient science that investigates the physiological impact of living things in humans. varmam is a martial art that incorporates a wide range of health benefits. It is a holistic and healing science for living a healthy lifestyle. It is one of the earliest collections of diagnostic and therapeutic knowledge. Tamil Siddhas founded this therapeutic practise in ancient times, and it was passed down through the years by oral tradition, palm leaf, and paper texts. Varmam refers to the importance of keeping one's body clean as well as the potential to alleviate illnesses by activating key places. Varma practises help to prevent diabetic peripheral neuropathy problems by enhancing stomach fire and aiding in healthy food digestion through neurological and soft tissue massage and the retention of healthy blood flow and fresh oxygen. This helps diabetics maintain steady blood sugar levels. Stomach fire is stimulated, which aids in the burning of extra sugar. The nerves are not harmed, and the skin does not become waxy and unhealthy as a result of varma point activation. This art is now practised in two different ways. Defense varmalogy (kalari/kalariapayattu) and medical varmalogy (pressure points, therapeutic massage, herbal remedies). Despite the fact that varma kalai has its own set of katas and processes, it was intimately associated with silambam's kuttu varisai and kalaipayattu. Siddhar Agasthiyar's most ancient literature, Kampu Soothram, describes his Kampu learning experience (Staff or Silambam). Siddhar Agasthiyar later wrote a poem about the art of utilising Kampu (Staff or Silambam) for self-defence.

1.1 Palm Leaf Manuscript

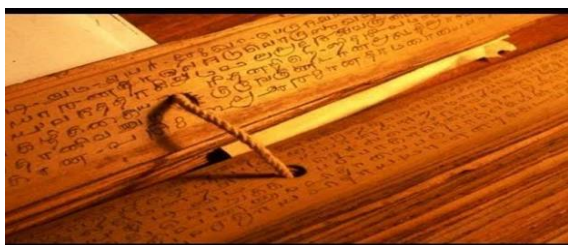


Figure :1 Palm leaf scriptures

Figure 1. Scriptures written by Siddhar Agasthiyar on palm leaf are no longer available. saints who lived with him understood the essence of the Siddhar Agasthiyar poem and passed it down to their disciples and subsequent generations. Siddha Agasthiyar wrote many poems on Kundalini, Varma, Kutthu Varasai, Siddha Vidhyam, Kampu Soothram, and other spiritual writings, and might be considered the father of modern martial arts, which are practised all over the world today⁴⁻⁵. Silambam is a common term for the martial art of stick-fencing in Tamil Nadu. It is known by many names in

other regions of South India, including Kolu Varasay or Dhonay Varasay in Karnataka, Kolu Aatta or

Karadi Aatta in Andhrapradesh, Neduvari or in Kerala. According to ancient scriptures, the history of Silambam in South India dates back at least 5,000 years. It has the potential to enhance all of the primary biomotor capacities. There is very little research on the effects of silambam practise on these specific characteristics in the Indian population. Concentration should be improved⁶.

Siddhar Agasthiyar poem to their followers and succeeding generations .Siddha Agasthiyar wrote Kampu Soothram explained whom practice stick game ,Let see the end of the record, If you get used to the time daily, It maintains consistent hand and leg strength, Arappa you have no equivalent.

Pārappā silampaṭikka ukki teṇṭam,
 pativāṇa ātiyantam ārtāṇ kāṅpār,
 nērappā tiṇantōrum paḷakkamāṅāl
 uṇpuyamum kālpalamum nilaikkumappā
 ārappā uṇakku nikar oruttar illai..

- Agasthya Kampu Sutra

He has written a separate book for silambam only so that people may realize its superiority. According to references in the Silappadikkaram

and other works of Sangam literature, Silambam has been practised since the 2nd century BC. Silambam main focus is on the bamboo staff. The length of the staff depends on the height of the practitioner. Ideally it should just touch the forehead. Begin by discussing the advantages of studying Silambam every day, as well as how to perform silambattam, confront the opponent, and protect it from animals⁸. Varmam medicine is the Siddha System of Medicine's, Contributed by the Siddhas for the benefit of mankind. Siddha medicine, one of India's oldest indigenous systems, contains a library of traditional formulations for internal use and a variety of additional distinct techniques/therapies for external use. Varmam is one of these therapies that is used to treat a variety of diseases, particularly those that are related to the digestive system. Varmam spots are locations where the Prana energy resides and activates both body and life energy⁹⁻¹¹. These sites can be found at nerve, naadi, muscle, and bone junctions. They are bio-energetic areas that help the body's physiological activities. Varmams are rhythmically tuned by varma experts for curing various diseases like nerve disorders, arthritis, back pain, diabetes, spinal problems and etc. The systolic and diastolic blood pressures were both adjusted using systematic varma treatment and Silambam practice. In diabetic peripheral neuropathy patients, this programme reduced heart rate and maintain physiologically normal levels¹²⁻¹⁴.

2. MATERIALS AND METHODS:

The data from the study sample was analyzed for silambam play without injury and related Physiological in relation to pre and post-tests in two experimental groups, as well as one control group with no practice. Thirty mens with diabetic peripheral neuropathy from Tamil Nadu, ranging in age from 35 to 70 years, were chosen as study participants. The participants were split into three groups of ten people each. The experimental group I received Silambam with Varma Therapy, the experimental group II received Silambam without Varma Therapy, and the control group III received no practice.

Flow Chart for Evaluation of DPN Persons

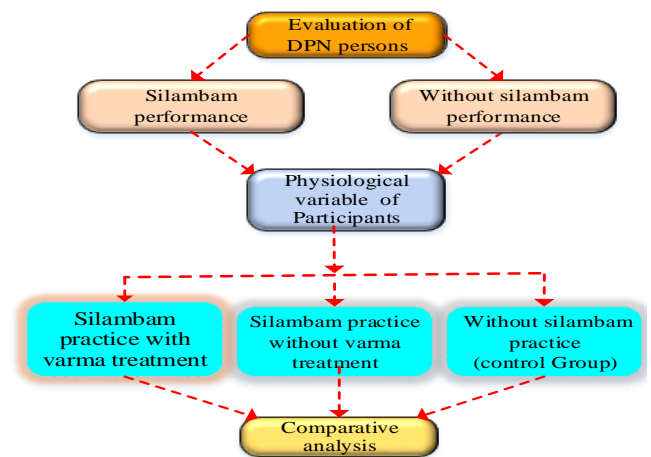


Figure :2 Evaluation of DPN Persons

Figure 2 shown the DPN members were divided into three categories. Silambam was used in two experimental groups, and it was not used in the control group. in relation to health Physiological variables such as Blood Pressure (Systolic), Blood Pressure (Diastolic), and Resting Heart Rate obtained before and after the test. Silambam practise (in conjunction with varmam points in the nervous system) helps to tune the nervous system, resulting in more controlled blood flow throughout the body. Every silambam movement affects a different set of varma points, allowing for better health, flexibility, mobility, and overall body awareness. Finally, all of the study's participants compared and analysed the findings in order to improve the research.

2.1 INVESTIGATIONS

Routine complete blood count, urinary, and biochemical examinations were performed to rule out additional pathology and determine the underlying reason. Blood sugar levels, both fasting and postprandial, were kept within normal limits. Silambam stated that practise will improve without causing injury and that nerve function will improve.

2.2 TREATMENT PROTOCOL

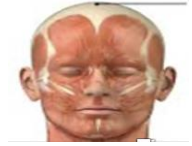
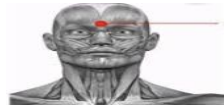



The patient was examined three times a week at Silambam for 12 weeks, and the first experimental group received varmam medication. In DPN patients, diabetic drugs were also continued. The patient's range of



motion, strength, and discomfort all improved dramatically after varmam treatment. The table

below gives brief descriptions and locations of the various varmam points.

Treatment protocol Varmam

Table: 1 Treatment protocol Varmam

Treatment protocol Varmam	Location	Image
Kodaikolli(Uchi) varmam	In the vertex of the skull. Point of a hundred meetings .It is one of the best points to sedate and reassure, serves to act in the treatment of all psychiatric cases -- neurological and Diabetes diseases	 உச்சி வர்மம்
Thilarthavarmam	Situated one grain size below the midpoint of both the eyebrows. (Between the Eye Brow region.)	 திலர்த்த வர்மம்
Ottuvarmam	A small depression below the chin	 ஓட்டு வர்மம்
Manibandha Varmam	Middle of the wrist joint (ventral aspect)	 மணிபந்த வர்மம்
komberikalam	Eight fingers above the medial malleolus	 கொப்பேறி காலம் Koberi Kalam

kuthikalvarmam	Sevenfingerbreadthsabovetheheel(posterior aspect)	
		<p>குதிகால் வர்மம்</p>
Ullankalvellai varmam	At the junction of big and second toe in plantar region.	
		<p>உள்ளங் கால்வெள்ளை வர்மம்</p>

2.3 Data collection

Acceptance/exclusion criteria Patients with DPN, with or without pain, who met the inclusion criteria were included in the study. They had to be at least 35 years old. The questionnaire looked into the patients' physiology variables, peripheral neuropathy duration, pain scores (0–10), type and duration (in hours) of physical activity (Silambam or non-Silambam), patient's perception of benefits of silambam practise with varma treatment use before diagnosis, classification of varma points, types of varma points utilised, resources surveyed, safety, and efficacy of Varma treatment. After being reviewed by the investigator, patients were given pre-designed standard forms. The patients' demographics, diagnoses, and medical histories, among other things, were documented.

3. Result:

3.1 Calculations in statistics

The data from the study was analysed using the Statistical Package for the Social Sciences (SPSS) v. 19.0. Frequencies, percentages, averages, and standard deviations were used to characterise the findings. Features of SPSS, from its beginnings as a statistical analysis tool to how it has evolved into a popular choice among academics in several industries.

Researchers, particularly young researchers, must understand the details of SPSS in order to understand why they should utilise it¹⁵⁻¹⁶.

3.2 Paired Samples Test For Pre-test and Post-test for Group I

The findings result that participants in the experimental Group I received Silambam with Varma Therapy module performed better than other Groups. The value of Group I has been significant Value.

The analysis tool was used to examine the experimental Groups I and II, as well as the control group. Table 2 presents the pre-test and post-test of Systolic pressure in Silambam with Varma Therapy as Mean value 21.600, Standard Deviation 17.677, T test value 3.864, and significant value.004 for the pre-test and post-test of Systolic pressure in Silambam with Varma Therapy. Group I analysed to Significant at 0.04 level of confidence. Table 2 shows the pre-test and post-test of Diastolic pressure in Silambam with Varma Therapy as Mean value 6.800, Standard Deviation 7.361, T test got value 2.921, and significant value .017. Table 2 displays the pre-test and post-test results for Heart Rate in Silambam with Varma Therapy as Mean value 21.300, Standard Deviation 16.028, T test value 4.202, and significant value.002 in Silambam with Varma Therapy. Table 2 reveals that the systolic and heart rate pre- and post-tests in Silambam with Varma Therapy had a

significant value. There has been less significant difference in diastolic pressure.

Table-2: Paired Samples Test For Pre-test and Post-test Group I (experimental Group-I)

Paired Samples Test For Pre-test and Post-test for Group I

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre test Systolic - Post test Systolic	21.600	17.677	5.590	8.954	34.246	3.864	9	.004
Pair 2	pre test Diastolic - Post test Diastolic	6.800	7.361	2.328	1.535	12.065	2.921	9	.017
Pair 3	pre test Heart rate - Post test Heart rate	21.300	16.028	5.069	9.834	32.766	4.202	9	.002

3.2 Paired Samples Test For Pre-test and Post-test for Group II

The findings result that participants in the experimental Group II received Silambam without Varma Therapy module performed better than Group III. The analysis tool was used to examine the experimental Groups II. Table 3 presents the pre-test and post-test of Systolic pressure in Silambam without Varma Therapy as Mean value 7.900, Standard Deviation 10.630, T test value 2.350, and significant value.043 for the pre-test and post-test of Systolic pressure in Silambam without Varma Therapy. Group II analysed to Significant at 0.43 level of less confidence. Table 3 shows the

pre-test and post-test of Diastolic pressure in Silambam without Varma Therapy as Mean value 3.100, Standard Deviation 7.279, T test got value 1.347, and significant value .211. Table 3 displays the pre-test and post-test results for Heart Rate in Silambam without Varma Therapy as Mean value -.600, Standard Deviation 5.967, T test value -.318, and significant value.758 in Silambam without Varma Therapy. Table 3 reveals that the systolic, Diastolic and heart rate pre- and post-tests in Silambam without Varma Therapy has been no significant value.

3.3 Paired Samples Test For Pre-test and Post-test for Group II

Table-3: Paired Samples Test For Pre-test and Post-test Group II (experimental Group-II)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre test Systolic - Post test Systolic	7.900	10.630	3.361	.296	15.504	2.350	9	.043
Pair 2	pre test Diastolic - Post test Diastolic	3.100	7.279	2.302	-2.107	8.307	1.347	9	.211
Pair 3	pre test Heart rate - Post test Heart rate	-.600	5.967	1.887	-4.868	3.668	-.318	9	.758

3.4 Paired Samples Test For Pre-test and Post-test for Group III

The findings result that participants in the Control Group not received Silambam and Varma Therapy. The analysis tool was used to examine the Control Groups. Table 3 presents the pre-test and post-test of Systolic pressure in control group as Mean value -6.100, Standard Deviation 28.231, T test value -.683, and significant value .512 for the pre-test and post-test of Systolic pressure in Control Group. Group III analysed to no Significant at .512 level

of less confidence. Table 4 shows the pre-test and post-test of Diastolic pressure in Control Group as Mean value -3.500, Standard Deviation 15.458, T test got value -.716, and significant value .492. Table 4 displays the pre-test and post-test results for Heart Rate in Control Group as Mean value -3.900, Standard Deviation 6.574, T test value -1.876, and significant value .093 in Control Group. Table 4 reveals that the systolic, Diastolic and heart rate pre- and post-tests in Control Group has been no significant value.

Table-4: Paired Samples Test For Pre-test and Post-test Group III (Control Group)

Paired Samples Test For Pre-test and Post-test for Group III

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre test Systolic - Post test Systolic	-6.100	28.231	8.927	-26.295	14.095	-.683	9	.512
Pair 2	pre test Diastolic - Post test Diastolic	-3.500	15.458	4.888	-14.558	7.558	-.716	9	.492

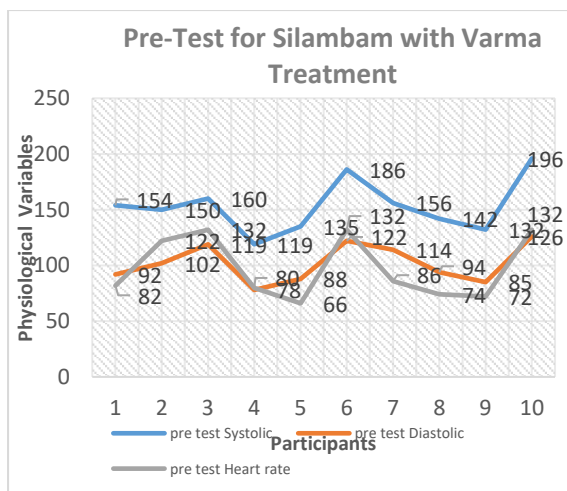
Pair	pre test Heart rate -	-3.900	6.574	2.079	-8.602	.802	-1.876	9	.093
3	Post test Heart rate								

4. Discussion

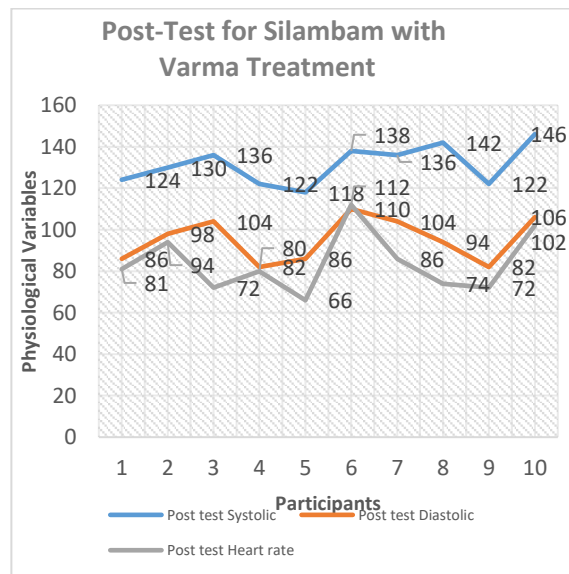
DPN is one of the most common consequences of diabetes, and it is characterized by progressively worsening discomfort, impaired sensory and proprioceptive sensibility, vibration awareness, and poor postural control. DPN is frequently linked to high mortality and morbidity rates. Varma point stimulation is widely utilised in clinical practice in Tamilnadu to treat DPN. However, a well-designed controlled trial is still needed to prove the usefulness of varma therapy in the treatment of DPN.

4.1 Graph I and II Pre-test and Post-test for Group I

According to the graph analysis, participants in Group -1 Silambam with Varma treatment module outperformed the other groups on overall. 12 weeks Varma therapy has shown to be effective. 12 weeks Varma therapy causes significant physical changes. Appropriate good results by systolic, diastolic, and heart rate parameters. Numbness, loss of sensation, and soreness in our feet have all reduced significantly. Varma practises, according to another study, can aid with balance and alertness. Varma therapy improves nerve function, gait, and stability.



Graph-I Pre-Test for Silambam with Varma Treatment

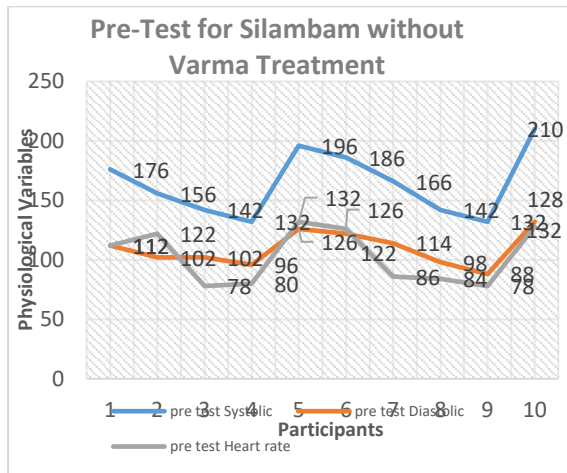


Graph-II Post-Test for Silambam with Varma Treatment

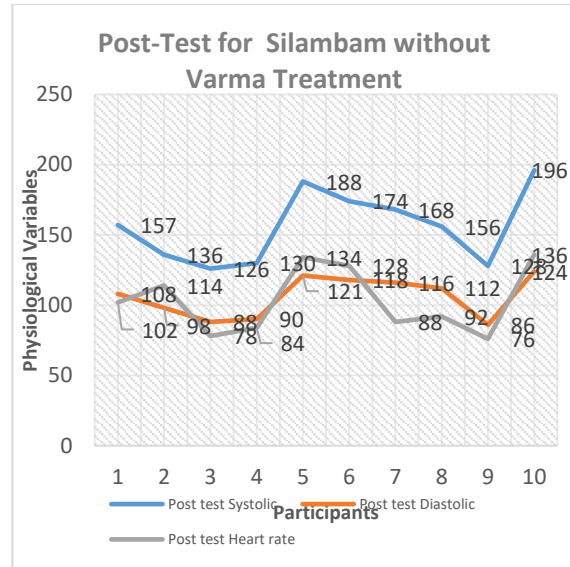
Participants in Group -1 Silambam with Varma therapy carried out and the results, as seen in graphs 1 and II. Thirty diabetic peripheral neuropathy patients from Tamil Nadu were enlisted as study participants, ranging in age from 35 to 70. The participants were divided into three groups, each with ten people. Silambam with Varma Therapy was given to ten patients in an experimental group 1. In graphs 1 and II, the x axis represented the number of 10 participants, while the y axis represented physiological data including Systolic, Diastolic, and Resting Heart Rate. Following the pre-test, the participants were given Varma point stimulation, such as Kodaikolli, Thilarthavarmam, Ottuvarmam, Manibandha Varmam, komberikalam, kuthikalvarmam and Ullankalvellai Varmam. After post-test diagnosis, patients’ assessments of the benefits of silambam practise with varma treatment were used with positive outcomes in experimental group-1. All graphs on the y axis reflected physiological data, with Systolic indicating blue, Diastolic indicating orange, and Resting Heart Rate indicating grey. simply compare graphs -I and -II The overall outcome for participants was represented in graph -II.

4.2 Graph III and IV Pre-test and Post-test for Group II

As indicated in pictures III and IV, participants in Group -2 Silambam without Varma therapy did not benefit significantly more than those in Group 1. The x axis showed the number of 10 participants in graphs III and IV, while the y axis represented physiological data such as Systolic, Diastolic, and Resting Heart Rate. After the pre-test, the participants were given Silambam practise, which included a basic lesson on footwork, circle movements, strength, speed, style, agility, endurance, and neuromuscular coordination. Silambam was found to be less effective when given for 12 weeks without Varma treatment. There are just minor observable physical changes after Silambam practice. In Silambam without Varma Therapy, there was less significant difference in systolic, diastolic, or heart rate between pre- and post-tests. simply compare graphs -III and -IV The graph depicted the participants' less favourable outcomes.



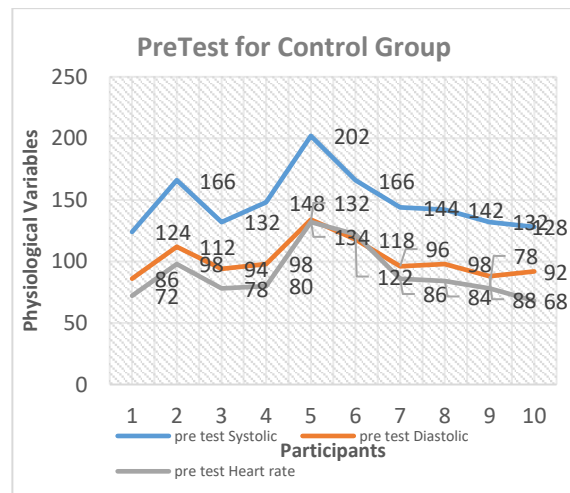
Graph-III Pre-Test for Silambam without Varma Treatment



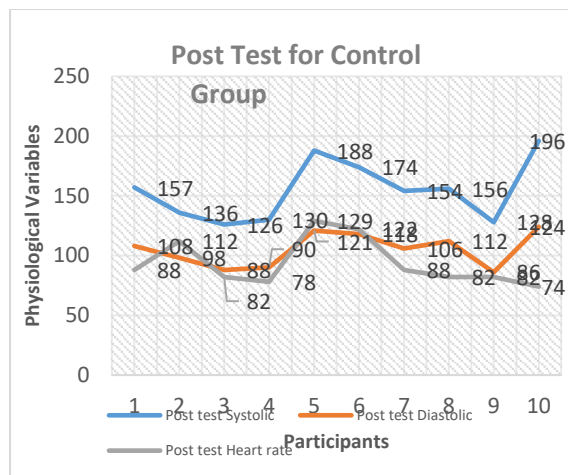
Graph-IV Post-Test for Silambam without Varma Treatment

4.2 Graph III and IV Pre-test and Post-test for Group II

Participants in Group -3 control group did not benefit significantly, as seen in graph v and VI. T the x axis represented the number of 10 participants, while the y axis represented physiological data like Systolic, Diastolic, and Resting Heart Rate. The subjects were not provided any practise after the pre-test. Between pre- and post-tests, there was no significant difference in systolic, diastolic, or heart rate. Compare the graphs -V and VI. The graph showed that the subjects had no positive outcomes.



Graph-V Pre-Test for Control Group



Graph-VI Post-Test for Control Group

5. Recommendation

Silambam Practices with Varma Therapy (Group-I) was significantly more effective than Silambam Practices without Varma Therapy (Group-II) in significantly reducing physiological variables such as Blood Systolic, Diastolic, and Resting Heart Rate, as well as improving gait posture, increasing energy level, and reducing Diabetic Peripheral Neuropathy within a 12 weeks of varma therapy. Silambam practises that do not include Varma Therapy have a lower success rate than group -I. The control group received no significant benefits. Varma point stimulation is widely utilised in clinical practice in Tamilnadu to treat DPN. However, a well-designed controlled trial is still needed to prove the usefulness of varma therapy in the treatment of DPN.

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