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Letter to Editor

A study of the Effect of Yogic Interventions on Varicose Veins

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Abstract

Background: Varicose Veins are a valve incompetence disorder of the veins. Most persons who suffer from Varicose Veins very often do not get substantially relieved by the current medical treatment. A holistic approach to yoga has the potential to prevent, reduce incompetent and cure the increased valve competent condition. It can be treated by changing lifestyle and dietary habits. But Yoga and Ayurveda are available to help reduce the symptoms and curb the Varicose Veins.

Aims: The main purpose of this study is to find the effect of the yogic intervention on KSRP Police suffering from primary varicose veins.

Design: 56 KSRP Police suffering from primary varicose veins were selected from KSRP 7th Battalion Police, Mangalore for the study. The age of the subjects ranged from 30 to 60 years. The design used for the study was a pre-post design. Simple Random sampling was used for the collection of the sample.

Methods: The study was performed with 56 KSRP Police who gave information regarding the daily activities of the Police; pre-post values for the study were assessed based on the primary varicose veins. Yogic techniques were used as an intervention for a period of 3 months.

Results: 90 days of Yoga Intervention resulted in significant changes in the score of the perceived parameters of questionnaires and doppler ultrasound test in the experiment group ($p < 0.001$) compared to the control group.

Conclusion: Yoga and Ayurveda can increase the resistance to the infection of Varicose Veins. The holistic approach of yoga can prevent and reduce the Varicose Veins condition. Adopting the yogic techniques and Ayurvedic techniques properly removes the impurities of the Varicose Veins, and further stagnation can be prevented.

Keywords: Varicose Veins, Yogic Interventions, Ayurveda, KSRP Employees.

INTRODUCTION

Yoga has the potential to prevent and cure diseases of both body and mind. Therefore, the refinement in health should be such that one should feel the slightest change in the body. This is possible by properly adapting yogic principles^{1,2}. Poor lifestyles, too much competition, excessive hurry-worry, irregular eating and sleeping habits, and mental and social conflicts lead to health problems³. Besides the functional unity of different body parts, yoga believes in the close relationship between the body and the mind. Mental factors affect the functioning of different parts of the body and vice versa. A holistic approach to yoga has the potential to heal diseases completely⁴. Patañjali says *yogāṅgānusthānadaśuddhikṣaye jñānāḍīptirāvivekakhyāteh*, it emphasizes that following different parts of yoga can destroy the impurities of both body and mind⁵. Varicose Veins are a valve incompetence disorder. Therefore, naturally, there will be impurities in the Veins valve. These impurities can be removed by proper yogic techniques. For example, a reference from *Hathapradīpikā* explains that *vipartakarni*, *naḍishodana*, and *suryabhedana* are the major asana and pranayama which

are beneficial to remove the valve incompetence and impurities of veins and maintaining healthy valve competence⁶.

Concept of Varicose Veins According to Yoga and Ayurveda

Detailed explanations about the disorders of veins and their treatment can be seen in ancient Indian texts such as *Astāṅga Hṛdaya*, *Charaka Samhitha*, and *Vāghbhata* explains the knowledge of diseases of the *Sira Vikṛiti* (venous disorder) (*Sirakautilya* or *Kutilsira*) and their treatment (*Sira Vikṛiti*) in Indian texts, it can be correlated to *Siragranthi* (*Granthi* means protruded nodule like structure and *Sira* means Vein) and is due to aggravated *Vata dosha*. Any condition that puts excessive pressure on the legs or abdomen such as stationary standing for long periods results in varicose veins as it increases intraluminal pressure. Poor circulation, Weakness of vein walls and valves, Compression of iliac veins & Hormonal fluctuations, like in pregnancy, Obesity, Sedentary lifestyle, Chronic constipation, Excessive physical activity, etc. are the causes of the disease veins. He further explains the symptoms of “varicose veins” caused by *vāta*, which appear due to aggravation of *Vata dosha*, which compresses, squeezes, and dries up and produces *granthi* (protruded nodule-like

structure), which is raised and circular. The swollen, bulging, and twisted bluish veins which become visible just beneath the skin surface and filled up with an abnormal gathering of blood are known as varicose veins which may be superficial (just below the skin surface, filled with capillaries) or deep (located deep beneath the muscle) ^{7 8 9}.

Pathogenesis According to Yoga, and Ayurveda

Varicose veins are primarily a Vata disorder, caused by an imbalance in Vyana Vayu, which creates increased pressure that affects the valves and elasticity of the veins. Vyana Vayu, one of the sub-doshas of Vata, is responsible for transporting oxygen-rich blood from the heart to the body's cells through the arteries. It also governs the flow of deoxygenated blood from the body's cells back to the heart through the veins. To push blood back to the heart, the veins rely mainly on surrounding muscles and a network of one-way valves. As blood flows through a vein, the cuplike valves alternately open to allow blood through and then close to prevent the blood from flowing backward. When Vyana Vayu is out of balance, excessive dryness results in hardening and loss of elasticity of the valves and veins. At the same time, an increase in blood pressure dilates the vein, and the valves no longer seal properly, making it difficult for the muscles to push the blood back to the heart. Instead of flowing from one valve to the next, blood collects in the superficial veins of the legs, which have less muscular support than the deep veins. The result is varicose veins just beneath the surface of the skin. As a secondary factor, once the blood has accumulated in the veins, an imbalance in Ranjaka Pitta can lead to ulcers in the varicose veins. Pitta dosha is naturally hot and sharp and governs metabolic and hormonal functioning. One of the sub-doshas of Pitta, called Ranjaka Pitta, maintains the purity of the blood. Rajanka Pitta resides in the liver and the spleen and is responsible for blood composition and the distribution of nutrients to cells and tissues through the blood. If Ranjaka Pitta is out of balance, the blood can get impure by association with Ama (metabolic toxins), thereby becoming thick and sluggish, thus contributing to ulcers in varicose veins, therefore varicose veins are primarily caused by poor circulation (as governed by Vyana Vayu) and its secondary complications such as ulcers are caused by impurities in the blood (as governed by Ranjaka Pitta). In the ancient Ayurvedic text (Charka Samhita) "Those who dip their feet in cold water right after prolonged standing creates sudden cold to the warm legs. As a result, the warm veins suddenly constrict and an imbalance of the Vata Dosha occurs leading to the formation of varicose veins" ^{10 11}.

Hypothesis

There will be a positive change in the Doppler Ultrasound test in the Primary varicose vein's experimental subjects by the intervention of yogic practices

Null Hypothesis

The yogic practice may not have any effect on Primary varicose veins.

MATERIALS AND METHODS

Ethical Clearance was obtained from the Committee on Institutional Human Ethics of Mangalore University. The study used randomized control trials. The study design consisted of

the experimental group (n=28) and control groups (n=28). A yoga therapy session of 60 minutes was introduced as an intervention for the 90 days regular employees of KSRP 7th battalion (Karnataka State Reverses Police) Assaigoli, Mangalore, the subjects of this research. Both groups were subjected to pre and post-test using the perceived questionnaires and Doppler Ultrasound test. The Yogic concept of Varicose Veins in general and the Ayurvedic Concept of Varicose Veins in specific have been explained. The present study describes the yogic intervention and Ayurveda that can be adopted for managing 'Varicose Veins' condition. The care of patients with varicose veins questionnaires was used for the study ¹².

Yogic Interventions

Yogic interventions were administered slowly with proper care and taught gradually according to the condition of the subjects. Asana Like Swastikasana, Vajrasana, Supta-Vajrasana, Simhasana, Tadasana-1-2, Trikonasana, Parsvakonasana, Pachimotasana, Purvottanasana, Janushirsasana, Pavanamuktasana, Bhujangasana, Shalabasana, Dhanurasana, Makarasana, Paryankasana, Baddakosanasana, Upavistkonasa, Jatharaparivartasana, Viparitakrani - Mudra, and Utanapadasana. Pranayams like Ujjayi, Nadishuddi, Bhastrika, and Bhramari. Relaxation techniques like Shavasana-1 and 2. the sessions begin with yogic interventions and Preliminary preparation for yoga practices. Also Benefits of healthy food habits and an ideal lifestyle. Asana was 40 minutes. Pranayama followed for the next 15 minutes. Finally, the relaxation technique for a duration of 5 minutes. A total of 60 minutes of yoga intervention sessions were taken. The control group followed the normal routine.

RESULTS

After 90 days of yoga intervention, the participants in the experimental group significantly reduced their varicose veins problems. All the individuals in the experimental group saw a reduction in varicose vein symptoms.

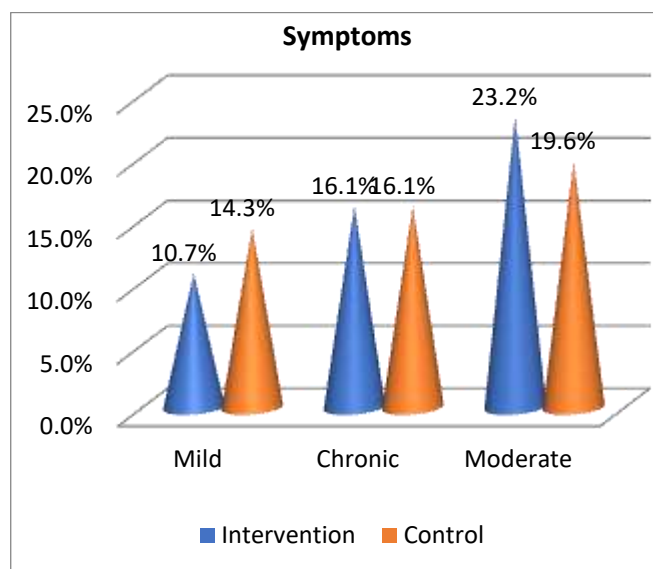


Figure 1: Differences in the level of varicose veins between pre and post-test scores.

Table 1: Symptoms of Varicose veins Questioner

Patient Symptoms						
Intervention Group	Symptom	N	Percentiles			p-value
			25th	50th (Median)	75th	
	Pre-Score for Itching	28	2.00	2.00	3.00	p-value = 0.001 (Significant)
	Post Score for Itching	28	1.00	1.50	2.00	
	Pre-Score for S. Discoloration	28	1.00	2.00	2.75	p-value = 0.000 (Significant)
	Post Score for S. Discoloration	28	1.00	1.50	2.00	
	Pre-Score for Skin Rash	28	1.00	2.00	2.00	p-value = 0.048 (Significant)
	Post Score for Skin Rash	28	1.00	1.50	2.00	
	Pre-Score for Phlebitis	28	2.00	2.00	2.00	p-value = 0.000 (Significant)
	Post Score for Phlebitis	28	1.00	1.50	2.00	
	Pre-Score for Anxiety	28	1.00	1.00	2.00	p-value = 0.285 (Not Significant)
	Post Score for Anxiety	28	1.00	1.50	2.00	
	Pre-Score for Swelling	28	2.00	3.00	3.00	p-value = 0.000 (Significant)
	Post Score for Swelling	28	1.00	1.50	2.00	
	Pre-Score for Aching	28	2.00	3.00	3.00	p-value = 0.013 (Significant)
	Post Score for Aching	28	1.00	1.50	2.00	
	Pre-Score for Night Cramps	28	3.00	3.00	3.00	p-value = 0.001 (Significant)
	Post Score for Night Cramps	28	1.00	1.50	2.00	
	Pre-Score for Pain	28	2.00	2.00	2.00	p-value = 0.808 (Not Significant)
	Post Score for Pain	28	1.00	1.50	2.00	

Statistics Analysis

1. The median and inter-quartile range (IQR) are used to describe the data for the score scale.
2. Mann-Whitney U-test is used to test the median score difference from pre- to post-intervention among both the control and intervention groups separately.
3. Mann-Whitney U-test is used as a questionnaire for clinical assessment of varicose veins.
4. Mann-Whitney test used for patient clinical symptoms assessment for 5 scale rating. And in terms of median score change has been described.

DISCUSSION AND CONCLUSION

Based on a review of the data gathered, the current study may conclude that yogic interventions' effect on varicose veins can be assessed using a questionnaire and Doppler ultrasound scanning. The study supports the use of a questionnaire and Doppler ultrasound scanning to evaluate the effectiveness of yoga interventions. This demonstrates that yoga can be a more successful therapeutic approach for varicose veins¹³. Yoga has the power to fully recover subjects from their illnesses. Like how every patient usually feels following yoga interventions, there is an instantaneous improvement, relief, and sensation of restored vigor^{14 15 16}.

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Authors Contribution

All authors equally contributed.

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Conflict of Interest

The authors have no conflicts of interest.

Ethical Approval

Approved

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