

Yogasanas' Role in Determining Neural Tissue Tension and Peripheral Nerve Mobilization

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Abstract – The Sanskrit term yuj is Yogasana which means the union of the individual consciousness or soul with the universal consciousness or spirit. Yoga is an Indian knowledge base spanning five thousand years. Many conceive of yoga as an advanced physical practice where individuals twist, spin, extend and respire, although it is only the most surface element of this profound discipline that awakens the boundless potentials of the mental and spirit of man. Yoga is a scientific knowledge that incorporates a way of life in its entirety. The old sages, who 2000 years ago thought on the human situation, offered four ways to realizing themselves: Gyan-margin, the road to knowledge on which the seeker learns to discriminate between the true and the unreal, Karma-margin, the road of selfless service with no thought to profit; Bhakti-margin, the route of love, of devotion. All these routes have the same objective: Samadhi. Eight portions of Raja Yoga are split. Yogasana's practice is at the heart of the Raja Yoga system and balances these different methods and unites them.

Keywords – Yoga, Yogasanas', Neural Tissue, Peripheral Nerve, Tension, Mobilization

INTRODUCTION

The basic objective of yoga is the restoration of calm and simplicity in mind, the liberation of confusion and anguish. The calmness of the yogic asanas and pranayama comes from the practice. In contrast to other practices that tend to muscles and bones, yoga rejuvenates the body softly. Yoga releases the mind from the bad thoughts generated by contemporary life's speed by rejuvenating the body. Yoga fills the containers of hope and optimism within. It helps to overcome all barriers to perfect health and spiritual satisfaction. Yoga is the connection between the individual and the universal self. It's a great art that aims to fully display the painters' ability. Whilst most artists need to express themselves using an instrument like paintbrush or violin, his body and his intellect are the only tools that a yogi requires. Yoga was likened to the fruit tree by the ancient sages. From a single seed grow the roots, trunk, branches, and leaves. The leaves provide the whole trees life-giving energy, which produce blooms and delicious, delectable fruit. Yoga converts darkness into light, ignorance into knowledge, knowledge to knowledge, and wisdom into unalloyed calm and spiritual happiness. Like the fruit is the natural climax of the tree.

Yoga

Yoga is an ancient, extremely subtle, body, mind, and spirit knowledge technology. The long practice of yoga leads the yogi in due course to a feeling of peace and self-confidence. Most people know that

yoga strengthens and flexibly makes the body. Yoga also benefits respiratory systems, circulatory systems, digestive systems and hormonal systems. The yoga is well-known. But yoga offers the ultimate aim of yuga and of self-fulfilledness only at the beginning of the Samadhi trip. Yuj roots in Sanskrit, meaning "to connect" or "to unify." As previously mentioned, the concept connected to "focusing on" or "use" derives from the name "yoga." In philosophical terms, Jivatma's association with the universal self is Yoga. Unification leads to a pure and perfect state of consciousness in which there is just no "I" feeling. This link precedes the fusion of the body with the mind and the intellect with the self. Thus, yoga is a dynamic inner experience that integrates the body, senses, intellect and intellect with the self [2].

Asanas and Pranayama

Practicing Asanas cleanses the body. Similarly, asanas purify gold from illness and toxins that result from irregular lifestyles, bad behavior and bad posture, via an increase in the fresh blood circulation through the body. Regular practice of the lengths, twists, turns and reverses - Asanas' fundamental motions - restores strength and endurance to the body. Asanas or breath control, in combination with Pranayama, remedies physical, physiological and psychological conditions. They influence the impact of stress and disease positively. Osteoarthritis, high and low blood pressure, diabetes, asthma and anorexia [5] are among the numerous illnesses that benefit from practicing asanas.

Types of Yoga

Hatha Yoga: Hatha Yoga is the Yoga branch of greatest popularity. The term 'hatha' may be interpreted in two ways: 'willingness' or 'powerful' or active yoga, and 'sol' (ha) and 'moon' (tha), balancing yoga. The branch Yoga is used to improve physical health and spirituality via physical postures or asana, breathing methods or pranayama and meditation. In this trail there are a lot of styles - Iyengar, Integral, Astanga, Kripalu, Jiva Mukti. Practicing Hatha Yoga helps to create a healthy, serene mind [7].

Bhakti Yoga: The most widely followed path in India is Bhakti Yoga. This is the road of the heart and dedication. Yogis who follow this branch recognize the "One" or the Divine in everyone and everything. Bhakti Yoga instructs a person to devote themselves to 'the One' or to Brahma by cultivating the love and acceptance of a person for everything.

Raja Yoga: Raja is "kingdom." This way is said to be the King of Yoga since most of the practitioners are religious and spiritual orders. Raja Yoga is built on the Eight Limbs of Yoga in the sutras of Yoga. A Raja Yogi considers the self as important, and respecting oneself and all creation is crucial to this journey.

Gyan Yoga: Gyan Yoga is the Yoga path that essentially addresses the mind and concentrates on the wisdom of men. Gyan Yogis see knowledge and intellect as crucial and try to bring the two together in order to overcome their limits. Since they want to gather information, they are open to diverse ideologies and religions since it is vital for them to know the spirit in an open and sensible way.

Karma Yoga: Karma Yoga is the way of service, since the current circumstance in this way is supposed to be based on one's previous activities. So now you choose a future devoid of the negative and egoistic. By practicing selfless service. Karma Yogis are changing their behavior for good and changing their soul, resulting in a shift in their destiny.

Tantra Yoga: Tantra Yoga is perhaps the most misunderstood of all schools, employing rituals to achieve sacredness. While sex is a component, it is not the whole route since it tries in all we do to locate what is holy. In fact, this ancient practise combines asana, mantra, mudra and bandha (energetic lock) with chakra (energy centre) to generate strength, lightness, and happiness in daily life.

Ashtanga Yoga: This dynamic, physically demanding exercise synchronizes respiration and movement, creating inner heat to detoxify the organism. Ashtanga yoga is wonderful for improving core strength and toning the body with its numerous vinyasas.

Hot Yoga: Hot yoga is any kind of yoga in a deliberately heated atmosphere. It is believed that temperatures vary from 85°C to 105°C to assist

sulfurize toxins as one strives to build strength and flexibility.

Iyengar Yoga: Iyengar Yoga is a practice of precision by paying attention to anatomical details and the harmonization of each stance. Poses are maintained and often modified with props for long periods of time. This approach has been created to grow strength, flexibility, stability and awareness methodically and can treat particular ailments. Iyengar B.K.S. Iyengar established the yoga Iyengar.

Jivamukti Yoga: Jivamukti is a physically and intellectually engaging style that integrates chanting, meditation, pranayama, philosophy and music into a powerful flow of Asana or vinyasa. This approach stresses the revival of old teachings in a modern environment.

Kundalini Yoga: Kundalini Yoga incorporated movement, dynamic methods of breathing, meditation, and mantras, such Sat Nam, into a reinvigorating mixture of spiritual and physical practices, meaning "Truth is my identifiedness." The objective is to develop physical life and raise awareness.

Power Yoga: Power Yoga is a vinyasa exercise centered on fitness. Ashtanga Yoga branch has a number of the same advantages and attributes, such internal building heat, enhanced endurance, strength and flexibility and decrease of stress. Teachers build their own sequences, while pupils sync with movement.

Prenatal Yoga: Prenatal Yoga may be used to enhance mothers' mental and physical activity in a practice which is specific to pregnancy. In particular, Prenatal Yoga helps improve resilience during and after pregnancies by focusing on breathing, stamina, pelvic floor work, restorative poses and core strength.

Restorative Yoga: A restoratory yoga sequence usually consists of just five or six postures, supported with props that enable the person to relax and relax fully. The restorative postures are held for 5 minutes or longer, with mild twists, sat forward folds and soft backbends.

Vinyasa Yoga: The term "vinyasa" may be rendered as "particular arrangement of anything," such as yoga. Students synchronise movements with breath to flow from one position to the next in the Vinyasa Yoga courses. Vinyasa Yoga may all be called Ashtanga, Jivamukti, and Power Yoga.

Yin Yoga: The purpose of this exercise is to help you sit longer and easier in meditation by extending the connective tissue surrounding the joints (mainly the knees, pelvis, sacrum, and spine). A passive practice, Yin Yoga incorporates changes in sitting and supine positions, often held for 3 to 5 minutes.

Yoga Hybrids: Whether you add yoga to your usual exercise or add weights or dance or acrobatic movements to yoga practice, it is beneficial to blend it with hybrid yoga approaches. Additional agility, stamina, and joy are provided by combining other exercises with asana.

Yoga Therapy: Yoga Therapy may be described as any yogic approach used to alleviate physical wounds or pain, psychological and emotional stress, or trauma.

Impact of yoga

The Sutras Yoga, VibhutiPada, Patanjali talk about yoga consequences. While it seems foreign to our current knowledge, it shows the potency of human nature's abilities. These spiritual forces and abilities must in their turn be mastered. They become a trap otherwise; distracting the seeker from the genuine goal of yoga [6]. When the Soul is free from the servility of the Kaivalya, Mind, Power or Pride of achievement. This is addressed by Kaivalya Pada, the chapter on total emancipation, in the fourth chapter on Yoga Sutras. A person who consistently does yoga won't be a victim, but a master of his surroundings and time. The yoga practice lives to love the world and to serve. This is what life are all about [9].

Concept of Neurodynamics

For many years the idea of mechanical unfavorable neural tissue is widely established. The oldest known mention of a neurodynamic test is dated 2800 BC, in which a hand straightening manoeuvre was carried out to determine if low back discomfort in Egyptian pyramids was seen by workers. One of the major features in combination with the musculoskeletal system is the treatment of neurodynamic disorders. In the musculoskeletal system, several neurological disorders are caused. The major therapy, including the mobilization of musculoskeletal systems, is neural mobilization, notably stretches [12].

Mechanical Functions of the Nervous System

The nervous system has the intrinsic capacity to move and to tolerate everyday mechanical pressures. This ability is crucial for harm and malfunction avoidance. To move the nervous system properly, three basic mechanical processes must be performed successfully:

1. Withstand tension,
2. Slide in its container,
3. be compressible.

Ultimately, these three roles have been the cause of all mechanical processes in the nervous system that are just combinations of tension, sliding and compression.

LITERATURE REVIEW

Ananthanarayanan TV, Srinivasan TM. (2011) Slow motion, isometric muscular contracture and antagonist muscular stretching define Asana practice. Slow motion has minimal energy costs, which prevents weariness. Isometric exercises are those in which the muscle is constantly contracted; no joint motion exists. But because of the weight work of the muscle, it is done. In the event of joint disarticulation, the muscle may still be activated by isometric exercise. Stretching muscle has extremely profound consequences on muscle dynamics. The muscle is relaxed (decreased activity) and the muscle's feedback is changed to re-adjust muscle control. For instance spasticity may be re-adjusted by changed reflex response during stretching of the alpha motoneuron discharge.

Bussing A, Ostermann T, Ludtke R, Michalsen A. (2012) 16 studies (1,007 individuals) of which 11 are randomised controlled and four have not been randomised controlled trials were included in a meta-analysis conducted for determining the effects of yoga on pain and related disability by Büssing et al. The authors found that yoga might be of assistance for numerous pain-related diseases, despite some restrictions. They also indicate that even short-term therapies might be useful, and that future research should additionally examine the influence of yoga patients' optimistic expectations on results.

Combs MA, Thorn BE. (2014) they found that people with chronically low back pain experience a range of hurdles and yoga practitioners. In general, the majority of participants seemed not to see just that they had chronic pain as a definitive obstacle or facilitator to try and yoga. Many of the highlighted topics are notably important for the experiences of those suffering from chronic pain. The dread of pain or damage instead was more significant as a barrier, a subject that was more prevalent than the whole sample in the pain population.

Crow et. al. (2015) have carried out a thorough assessment of Iyengar yoga's efficacy to relieve pain in the back and neck. The difference between the postoperative pain groups and the functional intensity evaluation was favorable for the yoga group in the six Randomized control tests with 570 patients selected for comparing the efficacy of yoga for back and neck pain against alternative treatment. But this systematic analysis showed significant evidence of short-term efficacy but less evidence for yoga's long-term effectiveness in patient focused outcomes for chronic back pain.

Hayes, M. & Chase, S. (2010) According to Hayes, more and more individuals use yoga as a technique through integrating the body, the soul and the mind to enhance health and well-being.

Monro R, Bhardwaj AK, Gupta RK, Telles S, Allen B, Little P. (2015) A randomized controlled yoga experiment for herniated disc and sciatica was carried out by the Yoga Biomedical Trust, UK, with positive effects similar with those previously reported with non-pollinated low pain. There have been no reports of detrimental effects of Yoga.

Sengupta, P. (2012) He studied the beneficial effects of Yoga and Pranayama, and found that yoga has several positive effects under different conditions such as hypertension, coronary atherosclerosis, serum lipid profile, cardiorespiratory efficiency, bodily fitness, diabetes mellitus, neurohormones, reproductive functions and pregnancies, stress, anxiety, mood function and mood functioning.

Sharan D, Manjula M, Urmi D, Ajeesh P S. (2014) The findings of this research reveal that a planned yoga programme has significantly improved the condition of physiotherapists diagnosed with cervical myofascial pain (QMS), physical capacity (force) and the cervical motion range and pressure threshold of trigger paths. Besides reducing discomfort, functional capability and health quality have improved significantly.

Williams, K., Abildso, C., Steinberg, L., Doyle, E., Epstein, B., Smith, D., & Cooper, L. (2009) The Iyengar Yoga procedure was performed in this research in individuals with persistent low back pain. In comparison with control group in the yoga group, significantly higher decreases in functional impairment and severity of pain were seen. Depression in yoga individuals was also much reduced. In addition this was equivalent in both groups, whereas a drop in pain drugs occurred. When per-protocol analyses were performed, improvements for all yoga group findings including a higher tendency towards lower use of pain medications were seen. Compared to routine health care 6 months after the intervention, the yoga group reported statistically significant decreases in functional impairment, pain intensity and sadness.

Woodyard C. (2011) In its research, selected research data on therapeutic effects of yoga were examined and the advantages of regular yoga in various situations and situations were thoroughly assessed. He investigated the following: enhancing muscles strength and flexibility of the body, promoting and improving the function of the breather and the cardiovascular system, promoting rehabilitation and the treatment of addiction, reducing stress, anxiety, depression and chronic pain.

OBJECTIVES OF THE STUDY

- To assess the pain and degree of disability of the patient using Neural Tissue Tension Tests by Butler method.
- To assess the pain and degree of disability of the patient by Yoga method.

- To find the effectiveness of nerve mobilization by Butler method in relieving the pain and degree of disability.
- To find the effectiveness of nerve mobilization by Yoga method in relieving the pain and degree of disability.

RESEARCH METHODOLOGY

Study Design: Open Label Parallel design interventional study

Sampling: Purposive sampling

Target Population: Patients visiting the out-patient department of Dr. D. Y. Patil College of Physiotherapy, Pune.

Sample Size: 118 OPD patients of Physiotherapy Department having involvement of 129 nerves

Inclusion Criteria: Patients complaining pain due to nerve entrapments, nerve root lesions, spinal canal stenosis, neuritis were included.

Exclusion Criteria: CNS lesions, UMN lesions, myelo-radiculopathy, multiple sclerosis, spinal cord lesions, myelopathy, neural symptom due to vascular causes.

OUTCOME MEASURES:

- 1) The Visual Analogue Scale (VAS) used for assessing pain.
- 2) The Functional Rating Index (FRI) used for assessing degree of disability due to pain.
 - FRI is a 10 item scale (pain intensity, frequency, sleeping, personal care, travel, work, recreation, lifting, walking and standing)
 - Every item rated from 0 to 4
 - Total score expressed as a percentage.

The research was approved by the Committee on Institutional Ethics. The OPD physiotherapist consented to take part in the trial for 126 patients with peripheral nerve pitfalls. It was gained written informed consent. Patients, including brain tissue mobility tests performed by David Butler, will be evaluated by routine clinical examinations. Double is evaluated using the Scale for Visual Analog Pain (VAS). The patients will thereafter be exposed to intervention with radiating pain. The patients are separated into two groups in which various procedures are performed. Specific neurodynamic mobilizations or yogasanas administered to patients depending on the nerve implicated. The first group will be treated according to Butler procedures of neural tissue mobilization. A Yoga programme is offered to the second group as indicated below. At

the beginning and at the conclusion of the intervention period, patients will be measured by pain alleviation on VAS for pain. The treatment time for the two groups is the same, around 20-25 minutes. Treatment will be done every day until patients feel better and are relieved of discomfort. The amount of days ranged from 6 days to 18 days at least. Yoga is a comprehensive practice that affects several systems of the body other than just one system. Therefore, as a holistic package, instead of separate yogasanas, a Yoga programme is developed to help the general health rather than relieve a particular nerve ailment. Out of a seven-asana programme, only 1 or 2 might cause discomfort, while the others showed overall advantages. Compliance with a specific asana is likely to grow with such pain-free asanas. The yoga patient engaged in active participation. The patient will share the benefit of improvement and will be less paternal. patient management.

A patient was assigned alternatively to either of the two groups - Butler or Yoga. Table below shows the supervised and delivered Yoga programme for patients categorized into the Yoga intervention group. Regardless of nerve involvement, all patients get the same regimen. The mobilized nerve with a certain asana is referred to below as well.

Table 1: Yoga programme for patients with corresponding nerves mobilized

No.	Yogasana	Nerve mobilised while performing the asana
1	Anulom-Vilom Pranayam	Stimulates breathing centre
2	Paschimotanasan	Sciatic Nerve (Slump test)
3	Trikonasana	Median Nerve
4	Gomukhasana	Ulnar Nerve
5	Ardha Matsyendrasana	Radial Nerve
6	Dhanurasana	Femoral Nerve
7	Pawanmuktasana	-
8	Shavasana	-

CONCLUSION

A considerable and tighter linear association between the Butler and Yoga pain evaluation has been seen in this research. Through the mechanosensitivity of the 5 examined nerves, i.e. median, ulner, radial, sciatic and femoral nerves, yogasanas may thus be used as a valid diagnostic method. In mobilization using the Butler technique and the Yoga approach, there is no substantial difference. Yoga may be utilized to mobilize peripheral nerves and lessen mechanosensitivity with frequent usage. In mobilizing the Butler technique and technique of yoga, there are significant differences in decrease of FRI handicap. Although the difference is statistically significant, the clinical relevance is controversial.

Yoga is not only physically proficient from this literature, but also has a psycho-physiological impact on the psyche and the complete human body. Butler mobilization is not conceivable. Patients may mobilize the nerves themselves and are responsible for their own health and therapy. One therapeutic job is to organize and first train the Program to over-extend, protect and oversee the blood vessels travelling via nerves and as a package. Butler mobilization needs a competent therapist to passively stretch during the therapy. You have to design and first teach a physical therapy. Yoga is a way of self-mobilization with the active involvement of a patient. But because Butler and yoga are equally successful in mobilizing 5 peripheral nerves, the Yoga technique may also be granted credit as a home curriculum.

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