

# YOGA SUTRA

A Monthly Journal of Swami Vivekananda Yoga Prakashana



## S-VYASA

### 9th CONVOCATION

Jan 12, 2012 | Prashanti Kutiram, Bengaluru



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Convocation Address by

**Dr. S.C. Sharma** Vice Chancellor, Tumkur University



Doctor of Science Award to Dr. B.N. Gangadhar

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**Swami Vivekananda Yoga Prakashana**

'Eknath Bhavan', # 19,  
Gavipuram Circle, Kempegowda Nagar,  
BANGALORE - 560 019

Tel: (08110) 3092 2900, (080) 2661 2669

Telefax : (080) 2660 8645

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## EDITORIAL

S-VYASA Convocation programs on January 12, 2012 brought smiles to all graduands who got their degrees and their family members. The visitors and guests poured appreciations “ I have witnessed hundreds of convocations, but this it was the most unique one” said a CEO of a big corporate. What was so unique, I asked him. “ it was so well organised and conducted, it went like a clock work with no MC. Technology was used to tell about the features of each of the 80 and odd candidates so interestingly. The technical contributions of DSc ( Hon) and Ph D ( each to get three papers accepted before they could submit their thesis) one paper each for MD and MSc each it again a unique one. The procession in the beginning with Nada-swara with drums made it so Indian. The gurupadesha from Taittiriya Upanishad and the oath taking ceremony by all students dressed in Indian style, the very content of the speeches were all so special depicting the best of east with that of the west by use of technology through Plasma, projections, PPT slides, etc”. We have tried to take the readers to glimpse through soem of these enchanting convocation programs in this issue of Yoga sudha. The full Vedios and papers and thesis are available and you can get through our web.

The 150 birth anniversary program in the afternoon brought a unique way of conducting the programs with wonderful vedio

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clips on the life and message of Swami Vivekananda, enchanting Hindusthani music by the youthful Jagdish and team on the dias interspaced with lectures by dignitaries kept the 400 strong audience glued to the program for 4 hours from 3 to 7 pm.

We are now heading for a grandest conference program in the city of Bangalore in Gayatri vihar of Palace grounds for and expected 5000 delegates from Feb 10th to 12, 2012; and an associated EXPO with nearly 120 stalls depicting various dimensions of Yoga and Naturopathy for an expected visitor number of 5 Lakhs. A program put together by Dept of AYUSH, Govt of Karnataka, it has provided a platform for all Yoga and naturopathy Institutions in the country on one hand and to foreign researchers, presidents of many international and national associations.

*Dr. H R Nagendra*

**International Conference**  
on Yoga, Naturopathy and Arogya Expo-2012  
Theme: Yoga and Naturopathy for Holistic Health

PLACE : Gayathri Vihar, Palace Grounds, Bengaluru  
AROGYA EXPO : February 9 - 13, 2012 Bengaluru, Karnataka, India  
Main Conference : Feb 10 - 12, 2012

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## NĀRADA BHAKTI SUTRAS

(Continued)

इत्येवं वदन्ति जनजल्पनिर्भया एकमताः कुमारव्यासशुकशाण्डिल्यगर्गवि  
ष्णुकौण्डिन्यशेषोद्धवारुणिवलिहनुमद्विभीषणादयः भक्त्याचार्याः । ८३  
व्हाकर्ता अचारयास रे कुमारा । व्यासा स्हुका । स्हानदलिया । गरगा । वसिहनु । क्खुनदनिया  
स्हेसहा । अरुना । बला । ज्ञानुमान । नद वबिहसिहाना ॥ त्हेरि होरत सि खने । नद त्हेय  
परखचलामि तहे गरोतनेसस खड व्हाकर्ता ॥

### Kumara proclaims in Chandogya Upanishat

यो वै भूमा तत्सुखं नाल्पे सुखमस्ति भूमैव सुखम् ।

*That which is infinite is bliss. Bliss in not in limited; infinite alone is bliss.*

### Vyasa proclaims in Mahabharata

तमेव चार्चयन्नित्यं भक्त्या पुरुषमव्ययम् । ध्यायन् स्तुवन्नमस्यंश्च यजमानस्तमेव च ॥  
अनादिनिधनं विष्णुं सर्वलोकमहेश्वरम् । लोकाध्यक्षं स्तुवन्नित्यं सर्वदुःखाधिको भवेत् ॥

*By worshipping, meditating, praising and saluting the beginningless and endless Divine, the universal lord and guide with devotion, one transcends all miseries.*

### Shuka proclaims in Bhagavata:

तस्माद्भारत सर्वात्मा भगवान् हरिरीश्वरः । श्रोतव्यः कीर्तितव्यश्च स्मर्तव्यस्चेच्छताभयम् ॥

*The all pervading Divine should be listened, sung and thought by the one who aspires the fearless liberation.*

### Shandilya says in Bhakti sutra

आत्मरत्यविरोधेनेति शाण्डिल्यः

*Bhakti is done without contradicting the aspiration to the pure self.*

Garga proclaims in Bhakti sutra

कथादिष्विति गर्गः

*“One has to hear always the transcendental pass times of the Divine”.*



### **Vishnu says in the Gita:**

सर्वधर्मान् परित्यज्य मामेकं शरणं ब्रज । अहं त्वा सर्वपापेभ्यो मोक्षयिष्यामि मा शुचः ॥

*“Give up all adjuncts and take refuge in me. I shall release you from bondage of sins and virtues and liberate you. Grieve not.”*

### **Citraketu says to Shesha in Bhagavata:**

जितमजित तदा भवता यदा भागवतं धर्ममनवद्यम् । निष्किंचना ये मुनय आत्मारामा यमुपासतेपवर्गायि ॥

*O victor! You won the sages, who are detached from materialistic pleasures, by giving them the teachings of Bhakti by which they adore you for liberation.*

### **Uddhava proclaims in Bhāgawatam**

दानव्रततपो होम जपस्वाध्याय संयमैः ।  
श्रेयोभिर्विविधैश्चान्यैः कृष्णे भक्तिर्दि साध्यते ।

Dānavratatapo homa japa swādhyāya saṁyamaiḥ.  
Śreyobhirvividhaiścānyaiḥ kṛṣṇe bhaktirhi sādhyate.

*‘Though charity, vows, penance, rituals, learning scriptures and samyama, bhakti is acquired as fruit.’*

*Aruni in Chandogya Upanishad talks on the pure devotion to the infinite Divine proclaiming that as the rivers culminate in the ocean, the individuals culminate in the one pure consciousness.*

इमाः सौम्य नद्यः समुद्रमेवापियन्ति समुद्र एव भवति

### **Hanuman proclaims**

स्वेदो मे परमो राजंस्त्वयि तिष्ठति नित्यदा ।  
भक्तिश्च परमा वीर भावो नान्यत्र गच्छति ॥

Swedo me paramo rājaṁstvayi tiṣṭati nityada,  
Bhaktiśca paramā vīra bhāvo nanyatra gacchati.

*“My supreme home stands always in you Oh! King (Rāmā). My devotion is always unto you. My feeling come never got trapped with any other unwanted objects”.*

**- Dr. Rangan**





## M.Sc. (Yoga & Consciousness) 2012



Ananda Raj Poudel



Jitendra Kumar Pradhan



Karthik Wagle



Krishan Kumar



Manjunatha N Hegade



Saraf Gajanan Kishor



Shambhunath Bhat

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## Dissertation Topics of M.Sc. (Yoga & Consciousness) 2012

1. **Ananda Raj Paudel:** A comparative study of the material and yogic sciences in the context of studying consciousness
2. **Jitendra Kumar Pradhan:** Counseling for modern mind with special reference to bhagavad gita
3. **Karthik Wagle:** Sublimation of manas (mind)
4. **Krishna Kumar:** Concept of trigunas according to the bhagavad-gita
5. **Manjunatha N. Hegade:** 5 typology of yajna according to taittiriya aranyaka
6. **Gajanan Kishor Saraf:** Consciousness according to shad darśanas
7. **Shambhunatha D. Bhat:** Highest life value - path of sannyasa



## DSc (Honaris Causa) AWARD 2012



**Prof. B.N. Gangadhar**, MBBS, MD, PhD  
Department of Psychiatry,  
National Institute of Mental Health and  
Neurosciences Bangalore  
(Deemed University)

### YOGA THERAPY IN MENTAL HEALTH: BUILDING EVIDENCE

#### ABSTRACT

(A Thesis compilation of his research work)

#### Background:

Mental disorders are highly prevalent and cause significant disease-induced burden. Even low prevalent conditions contribute to very high burden due to chronicity and progression to deficit states. Medications have made a change albeit with certain limitations.

However, availability of psychiatrists as well as fear of stigma leaves a wide treatment gap. Indian systems of interventions like yoga carry a potential to complement these limitations.

---

Completed MBBS from BMC in 1978 | MD in Psychiatry from NIMHANS In 1981  
**Active Researcher for 3 decades:** Nearly 250 scientific publications; Over 200 in international journals; Publications are widely cited; Over 2000 papers cite his work; 22 is his H-Index



### **Aim:**

The specific aim of these investigations was to build sufficient evidence for a role of yoga in mental disorders in clinical practice.

### **Objectives:**

Following have been the research questions in depression, schizophrenia and other conditions;

- i. Does yoga carry a therapeutic efficacy in depression independently?
- ii. If so, how does this compare with existing treatments?
- iii. Are there specific components of yoga that carry this potential?
- iv. Does yoga produce objective evidence of a change in biology of depressive patients?
- v. Can independent generic yoga package be developed for treating depression?
- vi. What are the benefits of add-on yoga in stabilized schizophrenia patients?
- vii. Does add-on yoga also reverse cognitive deficits in schizophrenia?
- viii. Does yoga benefit cognitive disorder in children?
- ix. Does yoga produce cognitive benefit in elderly at risk for dementia?
- x. What are the neurobiological effects of yoga?

### **Methods:**

1. Patients- The samples for depression, schizophrenia, other psychoses, alcoholism and attention deficit hyperkinetic disorder were selected from the hospital population at NIMHANS. The kin attending to these patients in the wards and OPD also formed subjects for the yoga-caregiver study. Senior citizens dwelling in care-homes formed the subjects for yoga and cognition in elderly. Healthy volunteers in the campus participated in the neurobiology of yoga (OM) studies. 2. Design- The designs adopted included open trials, randomized comparisons with active treatment as well

---

**Recognitions:** 1997: C.V. Raman Award (Karnataka); 2004: Fellow of National Academy of Medical Sciences; 2010: B.C. Roy Award (Karnataka); 2011: Kempe Gowda Award (Bangalore); Shares over 25 awards with others



as waitlisted controls. Cross-over comparisons were also carried out. 3. Yoga therapy packages included Sudarshan Kriya Yoga (SKY) in depression and alcoholism. Generic yoga package was used in schizophrenia, childhood ADHD, elderly, caregivers and also more recently in depression. Loud chanting of OM was used in volunteers; the crossover comparison was pronouncing a consonant ---sssss--- for the same duration that of OM. Other comparison groups in depression included imipramine, ECT, partial Kriya (excluding the cyclical breathing of SKY). Wait-listing the patients and use of exercise for comparable duration were other comparison groups in schizophrenia or caregiver projects. 4. Assessments included rating scales, both clinician- and self-administered. The patients were tested on emotion-detection tests. Rater-blinding was possible with some limitations in schizophrenia. 5. Biological measures included, P300 auditory event related potential, serum levels of prolactin, cortisol, ACTH, Brain derived neurotrophic factor (BDNF) and tumor necrosis factor alpha. Neurohemodynamic studies were conducted in OM chanting using functional magnetic imaging studies (fMRI).

### Results:

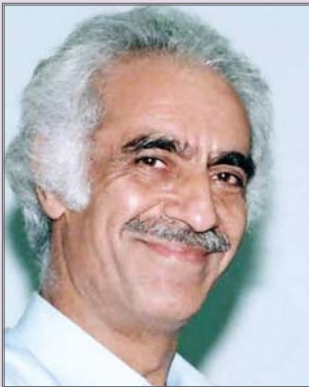
1. SKY alone produced clinically significant antidepressant effects. 2. The antidepressant effects of SKY compared favorably with drugs. 3. Ujjayi and bhastrika components of SKY too carry antidepressant potential albeit less potently. 4. SKY also has antidepressant effects in alcoholism patients during withdrawal.

**Professional Roles:** Faculty member since 1982 at NIMHANS; Professor of Psychiatry since 2000; Medical Superintendent (2007-10); Head Department of Psychiatry (2007-9); Head of PhD Clinical Neuroscience program; Director Advanced Center for Yoga; Hon Professor of Life Sciences SVYASA; Consultant to WHO (2006-7)

**Yoga Research:** Role of Sudarshan Kriya in Depression; Biological basis for SKY in Depression; Yoga as add-on therapy in schizophrenia; Oxytocin as a mediator of yoga effect; Yogasana in depression: Neuroplastic effect; Neuroimmunological effects of Yogasana; Neurobiology of OM chanting - fMRI



5. Generic yoga packages are developed and have a potential for use in depression, ADHD, caregiver stress and in elderly. 6. Add-on yogasana improves psychotic symptoms and cognitive function in schizophrenia and may be better than exercise or mere waiting. 7. Caregivers of neurological inpatients benefited from yoga. 8. Children with ADHD can learn and benefit from yoga. 9. Cognitive function improves after yoga in elderly. 10. SKY elevated prolactin in serum and lowered cortisol 11. SKY also 'normalized' P300 event related potential 12. Yogasana may 'correct' the neuroplastic and immunological functions in depression. 13. OM Chanting produced neurohemodynamic changes suggesting deactivation in limbic areas of the brain, an effect that potentially reduce emotional disturbance in mental disorders. 14. Add-on Yoga improves social cognition in patients with schizophrenia, possibly mediated through normalizing oxytocin levels.



**Dr. Madanmohan** MBBS, MD, M.Sc, FLAY  
Professor & Head, Department of  
Physiology & Programme Director,  
Advanced Centre for Yoga Therapy,  
Education and Research (ACYTER)  
Jawaharlal Institute of Postgraduate  
Medical Education and Research  
(JIPMER), Pondicherry

## **EFFECT OF YOGA ON PHYSIOLOGICAL FUNCTIONS AND THERAPEUTIC POTENTIAL OF YOGA**

**(A Thesis compilation of research papers,  
articles and work done)**



## ABSTRACT

### Introduction:

I joined JIPMER in March 1977 as Lecturer in Physiology. Apart from routine teaching, I started research work in right earnest using animals for my study. I soon realized that yoga has great potential not only to improve our physiological functions, but also to prevent and manage stress and a host of chronic diseases that defy modern medicine. Modern medicine (allopathy) is based on linear Newtonian physics. It is disease-oriented (pathy). Allopathic drugs have many undesirable “side effects” and adverse drug reactions (ADR) kill many patients. In contrast, the holistic science of yoga is health-oriented and yogic techniques have desirable “side benefits”. The ancient marvel of yoga has great potential because it is holistic. It is holistic because it improves our physical, mental as well as moral-spiritual health. It is holistic because it has promotive, preventive as well as curative and rehabilitative potential. It is holistic as it helps not only in our horizontal development at physical/ physiological plane, but also in-depth mental development and realization of our higher aspirations. It is holistic because it improves our strength, endurance as well as flexibility. Yoga is a holy science based on philosophy that has universal, non-sectarian and timeless appeal. It has the potential to become the enlightened and practical faith of the future “World man” or “Vishvamaanush” conceived by Vedidc rishis (Yasya te vishvamaanusho. Rigved 8: 45: 42).

### Yoga and Vedic Thought:

The scientific-spiritual discipline of yoga is the most precious gem of our cultural heritage and Vedic thought. Rigved, the first book of humankind exhorts us to meditate on the Divine (Yunjate man ut yunjate. Rigved 5:81:1). Yajurved advises yoga for enhancing our physical and mental powers (Yoge yoge tavastaram vaje vaje havamahe. Yajurved 11:14). Upanishads are replete with yoga vidya.

---

**Teaching & research experience :** 41 y; Teaching MBBS, MD, MSc, BSc & other para-medical courses. | **Fields of research:** Cardiovascular and respiratory physiology, yoga, yoga therapy and other areas. | **Invited talks:** 46+ invited talks in conferences, academic forums and organizations



In unequivocal terms, Yogeshwar Krishna (~3000 BC) emphasizes the superiority of yogi (Tapasvibhyo adhiko yogi. Bhagavadgita 6:46). In Bhagavadgita, the term yoga is mentioned 105 times in the 700 verses and other yogic terms like pran, pranayam, samadhi and prajna occur repeatedly. Realizing that yoga has health-promoting and therapeutic potential and it is our cultural heritage, I earnestly took to the research and teaching of yoga in addition to my routine duties as Head of the Department of Physiology. I have given yoga training to many batches of medical and paramedical students, resident doctors, staff of JIPMER, school children, police personnel and patients suffering from various chronic disorders. I am grateful to many of these subjects who participated in my research programmes resulting in publication of many research papers. I have organized 15 national workshops/CMEs/conferences, most of them in yoga. I also guided 45 students for MD, PhD, MSc and ICMR Studentship, most of the topics being on yoga. My yoga activities got a boost when I established Advanced Centre for Yoga Therapy, Education and Research (ACYTER) at JIPMER on 7 June 08. Information about ACYTER is given at the end of this thesis.

### **Studies on effect of Yoga on Physiological functions:**

Many studies have demonstrated that yogic techniques produce consistent and beneficial physiological changes and yoga has sound scientific basis. We have demonstrated that yoga training results in a significant increase in respiratory pressures, handgrip strength and endurance and breath holding times (Madanmohan et al. Indian J Physiol Pharmacol 1992; 36: 229 – 233). This indicates an improved physical strength and cardio-respiratory endurance. In the same study, we also found a significant decrease in visual and auditory reaction times after yoga training. This indicates a faster information processing by the central nervous system. In another study (Madanmohan et al. Indian J Physiol Pharmacol 2004; 48: 461 – 465) we have demonstrated that after yoga training, exercise-induced stress to cardiovascular system is less severe. This means that yoga training improves

---

**AWARDS:** Gold medal & scroll of honor, Annual Internal Oration, JIPMER Scientific Society; Best Personalities of India Award and Gold Medal, Friendship Forum of India; Honorary appointment to the Research Board of Advisors, American Biographical Institute; Certificate of Excellence, Friendship Forum of India.



exercise tolerance and can enable one to tolerate higher exercise loads. We have also demonstrated that 6 week yoga training improves thermoregulatory efficiency as measured by weight loss response to step test (Madanmohan et al. Indian J Physiol Pharmacol 2008; 52: 164 - 170). This yoga training-induced attenuation of sweating response to muscular exercise is of physiological significance and indicates improved autonomic regulation and exercise tolerance. Improvement of pulmonary functions and respiratory pressures has also been reported by us (Madanmohan et al. Indian J Physiol Pharmacol 2003; 47: 387 - 392).

### **Pranayama and Physiological functions:**

There are not many studies on the effect of pranayams on physiological functions. In a study comparing the effects of slow and fast pranayams, we have reported that slow pranayams (e.g. savitri pranayam) reduce the basal heart rate (HR) and rate-pressure product (RPP) while training in fast pranayams (e.g. bhastrika) results in an increase in these parameters (Madanmohan et al. Indian J Physiol Pharmacol 2005; 49: 313 - 318). Thus, the physiological effects and possibly therapeutic consequences of slow and fast pranayams can be different. From our studies, it is clear that yoga training improves physiological functions and this may explain, at least partly, the health-promoting and therapeutic potential of yoga.

### **Stress and Yoga:**

Modern life in full of stress and stress-related disorders are rampant in today's world. Stress is an important factor in etiology as well as progression of chronic diseases including hypertension and coronary artery disease. For prevention as well as management of stress and stress disorders, no method is as effective and far-reaching as yoga. Shavasana as well as dhyana are ideal techniques to calm the mind and make it sharp and one-pointed. They influence our body, mind as well as soul and promote health and healing. Yoga is the panacea for modern stress epidemic and answer to stress disorders. In an interesting

**Research experience & papers published:** 90 research papers (including original research work) in national & international journals; 72 abstracts & 28 magazine articles; Guided 30 PG's (MD, MS, MSc, PhD) students in their thesis work; Guided 14 medical students in their ICMR Research Studentship; Worked in 26 research projects





work from our laboratories, we have demonstrated that subjects trained in yoga can achieve a state of deep psychosomatic relaxation and significant decrease in oxygen consumption within 5 minutes of practicing savitri pranayam in shavasan (Madanmohan et al. The Yoga Review 1983; 3: 25 - 34). In another study, we have demonstrated that shavasan improves one's ability to withstand stress as measured by response to cold pressor test and this ability can be achieved by just 7 days of shavasan training (Madanmohan et al. Indian J Physiol Pharmacol 2002; 46: 307 - 312). Slow pranayam breathing during shavasan results in relaxation and mental peace known as samatvam (Samatvam yoga uchyate. Bhagavadgita, 2: 48). Regulated, slow, deep and rhythmic breathing is ideal for controlling stress and emotional hang-ups and stabilize our mind. Yoga enables one to withstand stress by normalizing the perception of stress, optimizing reaction to it and effectively releasing pent-up stress through various techniques, including AUM chanting. Slow rhythmic pranayams, dhyan and relaxing asans are very effective when practiced in combination and performed with awareness.

### **Yoga, its Therapeutic Potential:**

Yoga has a great therapeutic potential that is as yet untapped. The best way to deal with health problems and illness is to prevent them in the first place. And holistic science of yoga is the best means to achieve this goal since yoga has preventive as well as health-promotive potential in addition to curative potential. In spite of state of the art diagnostic procedures, powerful drugs and major share from the national health budget, modern medicine has not been able to control chronic degenerative diseases whose incidence is rising alarmingly. Hence, there is a pressing need for introducing yoga as an add-on, complementary system to augment modern medicine so that the need for expensive interventional procedures and drugs is significantly reduced.

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as chief investigator / co-investigator; Have personally given yoga training to many batches of medical students, school children & police personnel; Yoga therapy to hospital patients; Organized many workshops and CMEs in yoga; Edited 7 proceedings of workshops / CMEs / symposia and 3 reports of research projects.



### **Possible Mechanisms:**

Therapeutic potential of yoga may be due to its ability to improve physiological functions, modulate autonomic functions, relieve stress and improve general health and quality of life (QoL). In a study on the effects of pranayam on school children (Udupa et al. Indian J Physiol Pharmacol 2003; 47: 27 - 33), we have demonstrated that pranayam training produces a decrease in basal sympathetic tone, an increase in parasympathetic tone and a significant decrease in RPP. RPP is an index of myocardial oxygen consumption and load on the heart. Our finding of decrease in RPP after yoga training indicates that yoga is beneficial to the heart. Hypertension is a common disorder and many patients are on life-long medication. Yoga has great potential to prevent as well as manage hypertension. In a study on patients having essential hypertension, we have demonstrated that yoga training produces a significant decrease in blood pressure (BP) and HR within 3 weeks of the training (Vijayalakshmi et al. Indian J Physiol Pharmacol 2004; 48: 59 - 64). In the same study, we also found that yoga training optimizes the sympathetic response to stressful stimulus like isometric handgrip test. Beneficial effects of pranayam and shavasana in patients having premature ventricular complexes and palpitation has also been demonstrated by us (Prakash et al. International J Cardiol 2006; 111: 450 - 452; Ravindra et al. Ibid 2006; 108: 124 - 125). Recently, we have demonstrated that pranayam breathing at 6 breath / minute can reduce HR and BP of hypertensive patients within 5 minutes of starting the practice (Bhavanani et al. International J Yoga Therapy 2011; 21: 4 - 7).

### **Yoga for Health Promotion:**

Our studies demonstrate the health promoting and therapeutic potential of yoga. Yoga can play a significant role in prevention as well as management of hypertension, coronary artery disease and other chronic disorders that comprise more than 60% of health problems. For best results, yogic lifestyle should be adopted early in life since

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**Qualification & experience in yoga:** 36 papers, 39 abstracts and 23 magazine articles; Programme Director, Advanced Centre for Yoga; Therapy, Education and Research (ACYTER), JIPMER; PG Diploma & MSc in yoga; Awarded FIAY by Indian Academy of Yoga



lifestyle changes like coronary atherosclerosis start early in life and we have demonstrated that the levels of low density lipoprotein (LDL) and total cholesterol (TC) are higher in prehypertensive patients (Pavithran et al. Indian J Physiol Pharmacol 2007; 51: 96 – 98).

### **Plot Studies on Yoga and Future Plans:**

We have completed a few pilot studies with the aim to plan in-depth studies in near future and to train our yoga staff in research techniques. The results of these unpublished pilot studies are interesting and encouraging. In a study on 15 peri-menopausal patients receiving standard medical treatment for type 2 diabetes mellitus, 6 week comprehensive yoga therapy programme resulted in significant decrease in auditory reaction time, fasting and post-prandial blood glucose, LDL, VLDL and TC. This suggests that a comprehensive yoga therapy programme has the potential to enhance standard medical management of diabetes mellitus and can be used as an effective complementary therapy programme. In another study, 15 patients receiving standard medical treatment for essential hypertension underwent 8 week comprehensive yoga therapy programme. There was an excellent compliance and regularity of yoga practice by the participants. Yoga therapy resulted in improvement of lipid profile, BP and HR. Body weight and body mass index decreased significantly. In conclusion, 8 week comprehensive yoga therapy programme with good compliance has the potential to enhance the beneficial effects of standard medical management of essential hypertension. In a study on 22 patients of essential hypertension who were on standard medical treatment, 27 rounds of chandra nadi pranayam produced an immediate decrease in HR and BP. In another study on 29 hypertensive patients who were on regular medical treatment, we found that 5 min pranav pranayam produced a significant decrease in HR, BP and RPP. Pranav pranayam is simple to perform and can be used in addition to regular drug therapy to improve clinical condition of the patient. India has ~9 crore hypertensive subjects. It will be worthwhile to study if long-term pranayam practice can reduce the drug dosage and thus reduce the financial burden and side effects of drugs.



# EFFECT OF IAYT (INTEGRATED APPROACH OF YOGA THERAPY) IN OSTEOARTHRITIS OF KNEE JOINT - A COMPARATIVE STUDY



*PhD Thesis submitted by Dr John Ebnezar*

## **Background and need for the study:**

Osteoarthritis is the commonest type of arthritis and is characterized primarily by articular cartilage degeneration and a secondary peri-articular bone response. OA is the 2<sup>nd</sup> most common rheumatological problem and has a prevalence rate of 22 to 39 %. An earlier randomized control study on one week of intensive residential integrated yoga therapy for OA knees had shown improvement pain and mobility.

## **Objectives:**

- To compare the efficacy of integrated approach of yoga therapy with physiotherapy in patients suffering from osteoarthritis of knee joint.
- To determine the efficacy of integrated approach of yoga therapy on pain, knee flexibility (range of movements), knee disability, anxiety and depression in patients suffering from osteoarthritis of knee joint.
- To find out the impact of yoga therapy on the Quality of Life (QOL) in patients of osteoarthritis of knee joint.

## **Design:**

This was a prospective randomized parallel active control study.

## **Setting:**

Ebnezar Orthopedic Center, Bengaluru



## Subjects and Methods:

A sample size of 250 was obtained on G power software by fixing the alpha at 0.05 powered at 0.8 and an effect size of 0.38 considering the mean and SD of an earlier study. 250 patients of both genders in age group of 35 to 80 years with OA knees (one or both joints) satisfying the ACR Guidelines for diagnosis were included. The inclusion criteria were, (i) persistent pain for 3 months prior to recruitment, (ii) moderate to severe pain on walking, (iii) Kellegren and Lawrence radiologic grading of II to IV in X-rays taken within 6 months prior to entry, and (iv) those fully ambulant, literate and willing to participate in the study. Those with (i) grade I changes in x-ray (ii) acute knee pain, (iii) secondary osteoarthritis due to Rheumatoid arthritis, Gout, Septic arthritis, Tuberculosis, Tumor, Trauma or Hemophilia, and (iv) those with major medical or psychiatric disorders were excluded. The study was approved by the institutional review board (IRB) and ethical committee of SVAYSA University. Signed informed consent was obtained from all the participants. This was a randomized control study. After the initial screening, patients who fulfilled the entry criteria were assigned to either yoga or control group. Numbered envelopes were used to conceal the sequence until the intervention was assigned. Both groups were given the conventional physiotherapy using transcutaneous electrical stimulation and ultrasound massage for 15 days. Both groups had supervised practices at the center for 40 minutes daily (6 days/ week) after physiotherapy (20 minutes) for two weeks. All assessments were carried out on 1<sup>st</sup>, 15<sup>th</sup> and 90<sup>th</sup> days. The answer sheets of the questionnaires were coded and analyzed only after the study was completed. The statistician who did the randomization and data analysis and the researcher who carried out the assessments were blinded to the treatment status of the subjects.



### Intervention:

The intervention consisted of a two week yoga program comprising of *Yogic shithileekarana vyayamas* (Loosening and strengthening practices), *āsanas* (physical postures) designed for arthritis, Relaxation techniques, *prānāyāma* (breathing practices), meditation and *Lectures and Counseling on Yogic concepts of health and disease*. The control group practiced 40 minutes of therapeutic exercise after 20 Minutes of Physiotherapy with Transcutaneous electrical stimulation and ultrasound massage. The therapeutic physical exercises (40 minutes) included loosening and strengthening practices for the hands, elbows, arms and shoulders followed by a brief period of rest and specific knee practices followed by supine rest with light music.

### Outcome Measures:

(i) Pain-related outcomes (both walking pain and resting pain) were assessed on 1<sup>st</sup>, 15<sup>th</sup> and 90<sup>th</sup> days after the intervention. by (i) Numerical Rating Scale (NRS), (ii) Range of movements of knee joint assessed using goniometer, (iii) Tenderness, (iv) Swelling, (v) Crepitus, (vi) Early morning stiffness, (vii) Walking time (viii) Knee disability using Western Ontario and McMaster Universities Osteoarthritis Index (ix) Psychological variables like State and Trait Anxiety Inventory for anxiety, (x) Blood pressure through sphygmanometer and Pulse rate and (xi) Quality of Life using SF-36 questionnaire. Data were analyzed using SPSS Version 16. The base line values of the two groups were checked for normal distribution by using Shapiro-Wilk's Test.

### Results:

There were significant differences within ( $p < 0.001$ , Wilcoxon's) and between groups ( $p < 0.001$  Mann Whitney U) on all variables with better improvement in yoga than control group. Pain while walking (Numerical rating scale) reduced better ( $p < 0.001$ ) in yoga (37.3%-yoga, 24.9%-control) on 15<sup>th</sup> and 90<sup>th</sup> day (64.9% yoga, 42 %-control).



Rest pain (Numerical rating scale) reduced better ( $p < 0.001$ , Mann Whitney U test) in yoga group (yoga 33.6 % & control 13.4 %) on 15<sup>th</sup> and 90<sup>th</sup> day (71.8% yoga & 37.5% control). Morning stiffness decreased more ( $p < 0.001$ ) in yoga (post 1=68.6% and post 2= 98.1%) than control group (post1=38.6 %and post 2=71.6%). Range of flexion of knees increased better( $p < 0.001$ ) in yoga (26.5% right, 28% left) than control group (13.2 %-right,11.5 %-left) on 90<sup>th</sup> day; Western Ontario and McMaster Universities Osteoarthritis Index Score for Knee disability improved by 83.02% in the yoga group and 53.6% in the control group at 3 months. Walking time improved better in the yoga (52.8%) than the control group (21.5%). Joint tenderness, swelling and crepitus also reduced similarly. State Anxiety (STAI-1) reduced ( $p < 0.001$ ) by 35.5% (Post 1) and 58.4% (Post 2) in the yoga group and 15.6% (Post 1) and 38.8% (Post 2) in the control group; Trait anxiety (STAI 2) reduced ( $p < 0.001$ ) better (Post 1= 34.6% and Post 2=57.10%) in yoga than control group (Post 1= 14.12% & Post 2=34.73%). Blood Pressure and pulse rate also reduced better in the yoga than control group. There was significant between and within group differences in all domains of SF-36 ( $p < 0.004$ ), with better results in the yoga group than the control group both at 15<sup>th</sup> day and 90<sup>th</sup> day.

### **Conclusion:**

Integrated approach of yoga therapy is better than physiotherapy exercises as an adjunct to transcutaneous electrical stimulation and ultrasound treatment in reducing walking pain, resting pain, morning stiffness, knee disability, tenderness, swelling, crepitus, walking time, state and trait anxiety, blood pressure, pulse rate and in improving range of flexion and quality of life in patients with OA knees.

### **Key words:**

Osteoarthritis, yoga, pain, stiffness, knee disability, walking time, anxiety and SF-36.



## Effect of cyclic meditation on sleep architecture and subjective sleep rating



*PhD Thesis submitted by* **Sanjib Kumar Patra**

### ABSTRACT

#### **Background:**

Cyclic meditation (CM) is a technique in which yoga postures are interspersed with periods of supine rest in recurring cycles.

**Aim and objectives:** The present study was designed to

- To compile the ancient information on sleep from ancient Indian scriptures and allied literature.
- To study whether practicing cyclic meditation would influence the sleep structure in normal persons.
- To compare the effects of practicing cyclic meditation in the day time with the effects of supine rest practice, on the heart rate variability during sleep.

#### **Subjects and design:**

Whole night polysomnography measures and the self-rating of sleep were studied on the night following a day in which the participants practised cyclic meditation twice (approximately 23 minutes each time). This was compared to another night when they had two, equal duration sessions of supine rest (SR) on the preceding day. Recordings were made on thirty volunteers (all males, group mean





age  $\pm$  S.D.,  $26.3 \pm 4.6$  years), from F4, C4 and O<sub>2</sub> electrode sites (EEG) referenced to linked earlobes, and bipolar electroculography (EOG) and electromyography (EMG) sites. The sessions were one day apart and the order of sessions was randomized. HRV was recorded (i) while awake and (ii) during six hours of sleep (based on EEG, EMG and EOG recordings). This was similarly recorded for the night's sleep following the day time practice of SR.

### Results:

On the night following CM practice the percentage of slow wave sleep (SWS) was significantly more than the night following relaxation in SR, the percentage of rapid eye movement (REM) sleep was less, and the number of awakenings per hour was also less. Following CM the self rating of sleep based on visual analog scales showed an increase in the feeling that sleep was refreshing, an increase in feeling 'good' in the morning, an impression of an overall increase in sleep duration, a decrease in the degree to which sleep was influenced by being in a laboratory, as well as any associated discomfort. During the night following day time CM practice there were the following changes; a decrease in heart rate, LF power (n.u.), LF/HF ratio, and an increase in the number of pairs of Normal to Normal RR intervals differing by more than 50 ms divided by total number of all NN intervals (pNN50) ( $P < 0.05$ , in all cases, comparing sleep following CM compared with sleep following SR). No change was seen on the night following SR.

### Conclusion:

Practicing cyclic meditation twice a day appeared to improve the objective and subjective quality of sleep on the following night and shift sympatho-vagal balance in favor of parasympathetic



dominance during sleep on the following night.

### **Published Research Papers:**

**Sanjib Patra, Shirley Telles**

1. Positive impact of cyclic meditation on subsequent sleep, Medical Science Monitor. Med Sci Monit, 2009; 15(7): CR375-381.
2. Heart rate variability during sleep following the practice of cyclic meditation and supine rest, Applied Psychophysiology Biofeedback. Appl Psychophysiol Biofeedback; DOI 10.1007/s10484-009-9114-1.
3. Effect of yoga Somatic indicators of stress in healthy volunteers, Journal of Indian Psychology. Journal of Indian Psychology; 2008, Vol 26. Nos 1 & 2.

## **Workshop on Hypnotherapy**

Workshop on Hypnotherapy was conducted in Prashanti Kutiram campus from 6th to 9th January 2012. It contains was on Self Hypnosis (Introductory, in search of excellence) and Hypnotherapy (intermediate level, in the service of patients). This workshop was conducted by Dr Bhaskar Vyas, Plastic Surgeon and Dr Rajni Vyas, Obstetrician and Gynecologist, Founders and Past Presidents of Indian Society for Clinical Hypnosis, Life Members of Society for Clinical and Experimental Hypnosis. Workshop was attended by 19 MD (Yoga and Rehabilitation) students and 17 from other course students of SVYASA and from general public.



## *Inauguration of ICMR Training Jan 16 - Feb15, 2012*

ICMR Center for Advanced Research in Yoga & Neurophysiology, S-VYASA University conducted one month training on “Basic Understanding of Yoga Techniques and Training in Neurophysiological Techniques Relevant to Yoga Research”. The training was inaugurated on January 16, 2012 at 4:30 pm. The Chief Guest was Mr. R.K. Sinha, Founder Director of SIS India private limited. The program was presided over by Dr. H.R. Nagendra, Vice-Chancellor of S-VYASA; Dr. R. Nagarathna, Dean, Division of Yoga & Life Sciences; Shirley Telles, Head of ICMR CAR Y&N; Mr. Mattu, Former Director of Common Wealth Games; Dr. Naveen K.V., Co-Head of ICMR CAR Y&N and Dr. Manjunath N.K. Joint Director of Research, S-VYASA.



*Asatoma Sadgamaya  
Tamasoma Jyotirgamaya*

This year we have 30 external participants and 10 internal participants for the training program.





M.D. (Yoga & Rehabilitation) 2012



Dr Amit Kumar Singh



Dr Ashween Bilagi



Dr Chincholikar Nagraj



Dr Narasimhan S



Dr Rohith Kumar G



Dr Shashikant



Dr Asha B V



Dr Ashwini B C



Dr Ashwini R



## Dissertation Topics of M D (Yoga and Rehabilitation) 2012

1. **Dr Amit Kumar Singh:** Changes in triguna, tridosha in type II diabetes after IAYT-A pilot study
2. **Dr Ashween Bilagi:** Effect of intensive integrated yoga on insulin resistance in Type II diabetes
3. **Dr Chincholikar Nagraj:** Influence of IAYT on Nerve Conduction in Type II Diabetes
4. **Dr Narasimhan S:** Statistical Validation and reliability of Ama questionnaire for use in clinical studies
5. **Dr Rohith Kumar G:** Reliability of pulse metabolic analyzer
6. **Dr Shashikant:** Comparative study of anthropometric changes in males over the age 60 after yoga
7. **Dr Asha B V:** Comparative study of event related potential-P300 in diabetes between long term practitioners of yoga and non practitioners of yoga- a cross-sectional study.
8. **Dr Ashwini B C:** A Multimodal In-Patient Approach including Yoga, to Rehabilitation of Chronic Neurological Diseases- a Pilot Study in Germany.
9. **Dr Ashwini R:** Influence of regular Yoga therapy on type II Diabetes and cognitive functioning



M.Sc. (Yoga) 2012



Bharath N Joshi



R Sendhil Kumar



Sonya Bapu Bhemrao Borotikar



Dr Venugopal H J



Dr Chaya B V



Chetana S Deshpande



Jayashree R Hegde



Dr A Malini



Shalini C H



Sridevi K



Sushreeta Sudhir Tarte



## Dissertation Topics of M.Sc. (Yoga) 2012

1. **Bharath N Joshi:** Prananusandhanam & Effect of yoga on spiritual well being
2. **R Sendhil Kumar:** Neurological disorders according to ayurveda & Effect of pranayama and meditation as an add-on therapy in rehabilitation of patients with guittain barre syndrome
3. **Dr Venugopal H J:** Triguna prakrti assessment & Correlation between triguna prakrti questionnaires of ayusoft and personally inventory
4. **Dr Chaya B V:** The effect of integrated approach of yoga therapy on quality of life in patients in chronic diseases
5. **Chetana S Deshpande:** The effect of integrated yoga on of maternal stress in high risk pregnancy
6. **Jayashree R Hegde:** A comparative study on the concept of antenatal care (garbhini parichaya) from the point of view of ayurveda and conventional medicine & Effect of integrated approach of yoga therapy on platetetis high risk pregnancy
7. **Dr A Malini:** High risk pregnancy according to ayurveda & Effect of integrated approach of yoga therapy on uric acid
8. **Shalini C H:** Concept of chanchalata, ekgrata and dharma according to indian scriptural texts
9. **Sridevi K:** Understanding the concept of dharma dhyama and Samadhi according to ancient text & effect of integrated yoga on sustained attention and self esteem in high school children



B.Sc. (Yoga) 2012



Abhishek Kumar Pandey



Ankush Kumar



C Annamalai



Ayush Shukla



S Bharanidharan



Dhananjay Das



Gautam



Hemant Kumar Tiwari



Jaikumar



Maibam Honison Singh



Mandeep Singh



Nagaraja S



Om Prakash Kuriyal



V Rajkumar



L Rajinikanth



Rasakkon Suthas





B.Sc. (Yoga) 2012



Romeo Nath



Srikanth M S



Sumitabha Ghosh



Sunirmal Ghanti



Thongam Benji Singh



Asharaj P



Chae Mi Suk



Kavitha Arun



S Kiran Jain



Himadri Dutta



Preeti Kumari



Sonali Pandurang Jogdand



Tikhe Ashwini Sham



Thounaojam Mementonbi Devi

# 9<sup>th</sup> CONVOCATION



ALL GRADUATES of 2012

# N of S-VYASA



2 with DIGNITARIES



## Head Ache and Yoga Therapy - A Case Report from Ärogyadhäma

Dec 3rd, I had registered for a week's Yoga Therapy Course, due to my severe head ache. Though I was seeing a physician and ENT doctor , I could not get any kind of relief from this Headache. I had this head ache continuously from past 2 months (Nov and Oct). I am a working mom, so obviously there would be stress managing home , cooking , work , mother of teenage boy, staying with in-laws , long driving hours etc. I had decided that this is part and parcel of life and this kind of stress, I should get used to it. Unfortunately, this was not the case. I was losing my temper , and multitasking and strenuous activities were stressing me. Though, I knew , doing Pranayama and Yoga was good for health , I was not able to think about it as Time was a constraint. Last year, instead of going on vacation, I decided to take this 1 week yoga therapy course and treat myself . After joining this course, I realized, that I made a wise decision , I was investing time on myself and my health. Well, I was also thinking, "Why did not I do this earlier?". Staying in Prashanthi, the sessions I underwent changed me so much. It changed the very attitude towards life. Even after finishing my 1 week course, I continued doing the Breathing exercises, Yoga and pranayama every day and now I do not have any headache. I wish I could sustain this life style and would like to thank the therapists , doctors and Dr. Nagarathna Didi for all their help.

*- Best Regards... Malini*



## Study of different pyramids and their materials on growth of fenugreek



*PhD Thesis submitted by Itagi Ravi Kumar*

### ABSTRACT

#### Background:

The *Yantra* which is form aspect involving points, lines, triangles and squares represent energies in various modes.

Pyramids are structures usually with a square base and sloping triangular sides meeting in an apex. One can find pyramidal structures mentioned even in the ancient Vedic culture as part of *Vāstu śāstra*. The canopy of the sanctum sanctorum in Indian temples is an example of the use of pyramidal structure (Itagi, 2005).

#### Aims:

The present study was designed to see the effect of different pyramids related to their material and shapes on (1) emergence, (2) radical length and (3) seedling vigor of fenugreek.

**Objectives:** To study the effects of

- A. Wooden Pyramid
- B. Plywood over Fiberglass (Square Pyramid)
- C. Height using two Square Plywood Pyramids
- D. Shape using Square and Octagonal Pyramids made of Fiberglass



On the emergence, radical growth and seedling vigor of fenugreek. In addition, the study was aimed at compiling the authentic literature on *Yantra*.

### **Material and Methods:**

Following five pyramids were used for the treatment in this experiments, a Wooden Square Pyramid (WSP) with a square of length 770 mm and height 590 mm; Fiberglass Square Pyramid (FGSP) with a square of length 315 mm and height 200 mm; Fiberglass Octagonal Pyramid (FGOP) with a base side length of 115 mm and height 190 mm; Plywood Square Pyramid 1 (PLSP1) with a square of length 315 mm and height 200 mm and Plywood Square Pyramid 2 (PLSP2) with a square of length 320 mm and height 725 mm.

The fenugreek was procured from Seed Technology Information Center, UAS, GKVK. Pyramids and control samples were kept inside the same room.

The pyramids were kept with one of the sides being oriented in the magnetic North-South direction. Total of 120 seeds were used for each pyramid and control for day 2 test and another set of 120 seeds were used for day 4 test. Seeds are selected randomly from pool of seeds, soaked in distilled water for 30 minutes and cleaned to remove any toxic materials. Seeds are placed on germination paper wetted with distilled water and sandwiched with another wet paper and covered top and bottom with plastic sheet and made into rolls. Total of 18 rolls are made with 40 seeds in each roll for day 2 tests and another set of 18 rolls are made for day 4 tests. Six rolls were kept at the base of each of the five pyramids and another set of 6 rolls were kept outside as control.

Seed emergence was determined on day 2 by taking out three rolls



at random from each of the five pyramids and from control, counted number of seeds showing emergence and percent emergence of seeds calculated. The radical length and fresh and dry weight of the radical are measured.

On day 4, remaining three rolls were taken out from each of the five pyramids and from control and measured seedling vigor (radical emergence and length of seedling), fresh and dry weight of the seedling was recorded.

The temperature is recorded at every four hours interval at inside the pyramids and outside for all the four days.

## Results:

### 1. The effect of wooden pyramid

On day 2 the test results showed that with respect to control sample, Wooden Square Pyramid (WSP) sample showed 4.35% more percentage emergence, 0.44 cm (42.72%,  $p < 0.001$ ) more radical length, 0.24 g (3.25%) more radical fresh weight, 0.06 g (3%) more radical dry weight and inside temperature of 5°C (19.23%) more than outside.

Similarly the result of day 4 showed that WSP had 6.45% more percent emergence, 1.18 cm (16.81%,  $p < 0.001$ ) more seedling vigor (length of seedling), 2.49 gm (18.74%) more seedling fresh weight, 0.66 gm (2.339%) more seedling dry weight and 6°C (22.22%) more inside temperature compared to control sample.

### 2. The materials effect: plywood over fiberglass (square pyramid)

On day 2 test results showed that Plywood Square Pyramid 1 (PLSP1) sample had more of 0.21 cm (18.42%,  $p < 0.001$ )



radical length, 12 g (1.61%) more of fresh weight compared to Fiberglass Square Pyramid (FGSP) sample. But PLSP1 did not influence more on percent emergence and dry weight.

On day 4, PLSP1 had 0.63 cm (8.45%,  $p < 0.01$ ) more seedling vigor (length of seedling), 1.77 g (13.17%) more seedling fresh weight, 0.33 g (14.47%) more seedling dry weight and 2°C more (6.90%) inside temperature compared to FGSP sample.

### **3. The height effect using two square plywood pyramids of deferent heights**

The results of day 2 are showed that Plywood Square Pyramid 2 (PLSP2) sample had 2.15% more percent emergence, 0.10 cm (7.41%,  $p < 0.5$ ) more radical length, 0.30 g (3.97%) more radical fresh weight, 0.09 g (4.41%) more radical dry weight and 3°C (10.71%) more inside temperature compared to Plywood Square Pyramid 1 (PLSP1) sample.

The summary of the results on day 4 showed that PLSP2 had 1.03% more percent emergence and 0.06 g (2.30%) more seedling dry weight compared to PLSP1 sample. But PLSP2 did not influence more on seedling vigor (length of seedling) and seedling fresh weight.

### **4. The effect of shape using fiberglass square and octagonal pyramids**

On day 2, the results are showed that Fiberglass Square Pyramid (FGSP) sample had 1.09% more percentage emergence, 0.01 cm (0.88%,  $p < 0.1$ ) more radical length compared to Fiberglass Octagonal Pyramid (FGOP) sample. But it did not influence on radical fresh weight, radical dry weight and inside temperature.





The results of the day 4 are showed that FGSP had 3.19% more percent emergence, 0.28 cm (3.90%,  $p < 0.5$ ) seedling vigor (length of seedling), 0.09 gm (0.67%) more seedling fresh weight, 0.02 g (1.33%) more seedling dry weight and 1°C (3.57%) inside temperature compared to FGOP sample.

## Conclusion:

### 1. The effect of wooden pyramid

The study indicated that on day 2, wooden square pyramid (WSP) had positive influence on percent emergence, significant different in radical length, positive influence on radical fresh weight, radical dry weight and inside temperature compared to control sample. Similarly on day 4, there was a positive effect of WSP on percent emergence, significant different in seedling vigor (length of seedling), positive effect on fresh weight, dry weight and inside temperature compared to control sample.

### 2. The materials effect: plywood over fiberglass (square pyramid)

The study showed that plywood square pyramid 1 (PLSP1) had significant different in radical emergence and more positive influence on radical fresh weight than fiberglass square pyramid (FGSP). But PLSP1 did not influence more on percent emergence and dry weight. The investigation indicated that PLSP1 had significant different in seedling vigor (length of seedling), more positive influence on seedling fresh weight, dry weight and inside temperature than FGSP.

### 3. The height effect using two square plywood pyramids of deferent heights

The study indicated that there was greater effect of height on



percent emergence, radical length (but not significant), radical fresh weight, radical dry weight and inside temperature. The study indicated that there was positive effect of height on percent emergence and seedling dry weight. But PLSP2 did not influence more on seedling vigor (length of seedling) and seedling fresh weight.

#### **4. The effect of shape using fiber glass square and octagonal pyramids**

This investigation indicated that square shape influences more positive on percent emergence and significant different in radical length compared to octagonal pyramids. But it did not influence on radical fresh weight, radical dry weight and inside temperature. This investigation also indicated that square shape influences more positive on percent emergence, seedling vigor [length of seedling (but not significant)], its fresh weight and dry weight and inside temperature than octagonal pyramids.

### **Published Research Papers:**

1. Itagi Ravi Kumar, Swamy, N. V. C., and Nagendra, H. R., and Radhakrishna. (2010). Influence of pyramids on germination and growth of fenugreek. *Indian Journal of Traditional Knowledge*, 9(4):347-349.
2. Itagi Ravi Kumar, and Nagendra, H. R. (2011). Pyramids and their shapes effects. *ResearchersWorld*, II:195-201.
3. Itagi Ravi Kumar, Nagendra, H. R. (2011). Effect of Pyramids and their Materials on Emergence and Growth of Fenugreek. *Research Journal of Agricultural Sciences*, 2(3):629-6



## Development of Human Potential through Yogic Practices assessed by Psychological and Health Variables



*PhD Thesis submitted by Sushil S Khemka*

### ABSTRACT

#### Background:

There are a large number of methods of yoga catering to the needs of different types of people in society to bring about the transformation of the individual. They are broadly classified into four streams. Swami Vivekananda puts them as Work, Worship, Philosophy and Psychic control. One can even achieve highest goal of life either one or more or all of these to get one liberated. Integral Yoga modules included all these four streams of yoga in our study.

#### Aims:

The study was aimed to evaluate the human potential through four main streams of Yoga (Paths) through Yoga modules practices and literatures by quantifying the changes in psychological and health variables evoked by following Integral yoga practices, *Kapālabhāti* (KB) and Deep Relaxation technique (DRT).

#### Objectives:

1. To evaluate the effect of integral yoga on sustained attention, emotional intelligence, general health, triguna personality



and to evaluate the correlations of each variable with other variables.

2. To study the immediate effect of *Kapālabhāti* and Breath awareness on state anxiety, sustained attention and verbal and spatial memory
3. To study the immediate effect of Deep Relaxation Technique VS Supine rest on state anxiety and sustained attention

### **Material and Methods:**

- A. Effect of integral yoga practiced for 28 days, on sustained attention (Six Letter Cancellation (SLC) & Digit Letter Substitution (DLS), Emotional Intelligence (EQ) General Health (GHQ) and guna personality (Sattva, Rajas, Tamas) on one group of 108 healthy volunteers ages ranged from 17 to 63 years, in a pre-post study design.
- B. Immediate effect of *kapālabhāti* (KB) verses Breath Awareness (BA) on state anxiety, sustained attention, (SLC and DLS) tests and verbal and spatial memory on self control study group of 43 healthy volunteers aged 20-45 years practiced 20 minutes KB and BA over two consecutive days.
- X. Immediate effect of Deep Relaxation Technique (DRT) verses Supine Rest (SR), on state anxiety and sustained attention (SLC and DLS) on 86 healthy subjects aged 18 to 64 years with a mean age 29 years. These subjects were divided into two groups of 43 volunteers each for 20 minutes each for DRT and SR respectively immediately before and after practice.



## Results:

- A. Integral yoga: Significant pre-post improvements were found in sustained attention (SLC & DLS), EQ, GH and rajas ( $p < 0.001$ ), *tamas* ( $p < 0.01$ ) and in *sattva* ( $p < 0.05$ ).
- B. KB VS BA: After *kapālabhāti* scores reduced significantly on state anxiety and increased on both sustained attention verbal and spatial memory ( $p < 0.001$ ). After breath awareness changes were also significant ( $p < 0.001$ ) on all variables except state anxiety ( $p > 0.05$ ).
- X. DRT VS SR: A significant reduction in state anxiety score ( $p < 0.001$ ) was observed for the group practicing DRT, but not for the group practicing SR. For the sustained attention tests, however there were significant increases in scores in both DRT and SR groups ( $P < 0.001$ ).

## Conclusion:

- A. The study shows that integral yoga practices imparts significant benefits to healthy volunteers in all psychological (SLC, DLS), emotional (EQ), health (GHQ) and personality (PI) variables.
- B. KB VS BA: The study suggests that both KB and BA reduce anxiety and improve sustained attention. However KB was significantly more effective in doing so than BA. In contrast they act in opposite directions on verbal and spatial memory.
- X. DRT VS SR: Results suggest that both interventions improve attention but that only DRT reduces state anxiety.



### Key words:

Yoga, Emotional Intelligence, psychological, Gunas, Memory, Health.

### Published Research Articles:

Sushil S Khemka, Nagendra HR, Raghuram Nagarathna.

1. Immediate effects of two relaxation techniques on healthy volunteers. Indian Journal of Physiology and Pharmacology 2009; 53 (1) 67-72 (Pubmed Indexed)
2. Immediate effect of stimulation in comparison to relaxation in healthy volunteers. Indian Journal of Traditional Knowledge 2010: Vol.9, 606-610
3. Sushil S Khemka, Nagendra HR, Alex Hankey. Effect of integral yoga on psychological and health variables and their correlations. International Journal of Yoga 2011 Vol 4, 93-99 (Pubmed Indexed)





## **Self Management of Excessive Tension Module for Managerial Effectiveness**



*PhD Thesis submitted by Tikhe Sham Ganpat*

### **ABSTRACT**

This study deals with the effects of a module of Yoga practices designed to relieve stress and improve emotional well-being of managers in a large Indian company. The module known as Self-Management of Excessive Tension (SMET) includes a set of stimulating and relaxation practices (Cyclic Meditation) and lectures forming the Jñāna Yoga aspect of the whole module.

### **Background:**

Is the modern life of manager possible without stress? Stress certainly seems to be an inescapable element of the modern life of a manager. Most managers do not know that stress at work often stems from personal responses rather than just the work situation. It is in a manager's best interest to keep stress levels in the workplace at a minimum. For most managers, a little stress can be a good thing. When the pressure is on, they tend to do their work with great efficiency. However, when demands are increasing with no clear end in sight, even those who thrive on stress can be at risk for burnout. Thus, modern lifestyle of today's managers intensifies the stress leading to "excessive tension". Yoga does have the potential to provide physical, mental, and emotional health benefits to those who practice it with proper guidance. A holistic and integrated



stress management program called Self-Management of Excessive Tension (SMET) also called Cyclic Meditation has been investigated extensively to combat this modern lifestyle problem and thereby one can lead a holistic way of living in health, harmony, and happiness

### **Aim:**

To assess the efficacy of Self Management of Excessive Tension (SMET) program on managerial effectiveness.

### **Objectives:**

To study the effect of SMET on managerial effectiveness through the assessment of

1. Brain Wave Coherence (BWC),
2. Emotional Quotient (EQ)
3. General Health Questionnaire (GHQ)
4. Personality (Guna) Inventory (PI) and
5. Correlation between BWC, EQ, GHQ and PI

### **Methods:**

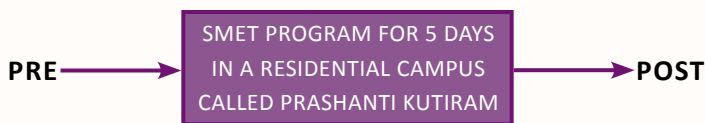
**Subjects:** The subjects for the study were 72 managers (63 males and 9 females). They were selected from the groups of managers of Oil and Natural Gas Corporation Limited (ONGC) based on the following criteria.

### **Design:**

A single group pre-post study

Subjects	n (Number of Subjects)	Age-range	Mean± SD
SMET participants	72 (63 males and 9 females)	45 – 60 years	48.75±3.86





### Intervention:

All the subjects of this study participated in the SMET program, a stress management program based on the yogic wisdom (lecture sessions and practice sessions of CM).

### Results:

A complete statistical and spectral analysis showed 19.31% increase ( $p=0.03$ ) in Delta, 5.04% increase ( $p=0.65$ ) in Theta, 15.4% increase ( $p=0.09$ ) in Alpha, 1.67% decrease ( $p=0.54$ ) in Beta and 18.68% increase ( $p=0.07$ ) in Gamma wave coherence between pre and post intervention measurements. Significant 28.22% increase in Delta of unhealthy (Cut-off score of 9 in GHQ) participants was observed.

EQ analysis showed 72.02% significant increase ( $p<0.001$ ) in post intervention as compared with pre intervention. Both healthy and unhealthy participants (Cut-off score of 9 in GHQ) showed significant increase (76.45% and 70.54% respectively) in EQ within the groups whereas no significant change in between the groups was observed.

Furthermore, there was 68.25% significant decrease ( $p<0.001$ ) in somatic symptoms (GHQ\_SS), 66.29% significant decrease ( $p<0.001$ ) in anxiety and insomnia (GHQ\_AI), 65.00% significant decrease ( $p<0.001$ ) in social dysfunction (GHQ\_SF), 87.08% significant decrease ( $p<0.001$ ) in severe depression (GHQ\_SP) and 71.47% significant decrease ( $p<0.001$ ) in all medical complaints (GHQ\_Total). Moreover, significant decrease in both healthy and unhealthy (Cut-off score of 9 in GHQ) participants within the groups was also observed in general health aspect.



It was observed that there was significant decrease in Tamas and Rajas scales and significant increase in Sattva scale of healthy, unhealthy and total participants (Cut-off score of 9 in GHQ) within the groups whereas in between the group there was no significant change.

Correlation studies between Healthy, unhealthy and combined revealed no significant correlation between BWC, EQ, GHQ and PI variables. This indicates that BWC, EQ, GHQ and PI are adequately independent with each other. The findings of correlation studies between EQ and PI are consistent with the results reported by Sony et al.

### Conclusions:

The present study suggests that

1. SMET is associated with the development of Managerial Effectiveness assessed through
  - ↑ Delta Brain Wave Coherence
  - ↑ Emotional Intelligence
  - ↑ General Health and
  - ↑ Sattvic Personality
2. SMET holds great promise for modern ailments
3. However, further studies using a randomized controlled design could substantiate these preliminary findings.

### Published Research Papers:

Ganpat TS, Nagendra HR.

1. Yoga therapy for developing emotional intelligence in mid-life managers. *J Mid-life Health* 2011; 2:28-30.
2. Effects of Yoga on brain wave coherence in executives. *IJPP-2010/P-10*.
3. Yoga therfor Children. *TANG - IJGTM* 2011;1:4
4. Integrated Yoga therapy for improving mental health in managers. [in press]



M.Sc. (Yoga & Education) 2012



Dibyendu Bandopadhyay



Om Prakash Singh



Parag Padmakar Javadekar



Sailesh Pradhan



Shivendra Kumar



Sravan P K



Sudhanshu Shekhar Mishra



Vishal Rajen Ganatra



Divya C K



Girijamba



Latha Maheswari K Reddy



Minakshi Nath



Dr Neeraj Sharma



Niharika Nagilla



Pavana Dattatraya Bhat



Reeta Verma



Saeed Sachin Bapat



Sasmita Dash



V Selvi



Sheela M Shivappagoudar

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## Dissertation Topics of M.Sc. (Yoga & Education) 2012

1. **Dibyendu Bandopadhyay:** Concept of unmada according to indian scriptures & Effect of yoga on adhd children
2. **Latha Maheswari K Reddy:** Concept of personality according to yoga and spiritual lore & Promoting positive health and personality development in university students following integrated yoga module
3. **Minakshi Nath:** Concept of sustained attention and triguna in yoga text & Effect of integrated approach of yoga module on sustained attention among female children
4. **Dr Neeraj Sharma:** Gunas according to yoga and āyurveda – a comparative study & Effect of integrated yoga module in trigunas in university students undergoing yic
5. **Niharika Nagilla:** Concept of prāṇa / chi & Effect of integrated yoga life style module on acugraph measures
6. **Om Prakash Singh:** The concept of kapalabhati and bhastrika practices according to ancient yoga texts & Effect of short term Suryanamaskar and Pranayama on Respiratory Parameters in school students
7. **Parag Padmakar Javadekar:** The concept and practice of sūryanamaskāra according to various ancient texts & Effect of sūryanamaskāra on sustained attention in school children
8. **Pavana Dattatraya Bhat:** Concept of mind and mental speed according to bhagavad gītā & Promoting speed of response in university students through yoga



9. **Reeta Verma:** Education system of ancient india & Effect of integrated yoga module on psychomotor performance and memory in high school students
10. **Sae Sachin Bapat:** Effect of yoga on students with low academic record
11. **Sailesh Pradhan:** Review of Sūryanamaskāra & Effect of Sūryanamaskāra and Prānāyāma on minimum muscular fitness
12. **Sasmita Dash:** Bhāvanātaścittaprasādanam and mental health promotion according to patañjali yoga & Effect of integrated yoga module on emotional intelligence in normal healthy
13. **V Selvi:** Significance of smṛti according to patañjali yoga sutra and its corelation with brain wave coherence & Effect of integrated yoga module on brain wave coherence in normal healthy volunteers.
14. **Sheela M Shivappagoudar:** Nairantrya Ekāgratā (sustained attention) according to patanjali yoga sutra & Efficacy of an integrated yoga module on sustained attention among college students
15. **Shivendra Kumar:** Concept of sustained attention in classical indian yogic texts & Effect of integrated approach of yoga module on sustained attention among female children
16. **Sravan P K:** Efficacy of tratāka on attention in children
17. **Vishal Rajen Ganatra:** Concept of nādānusandhāna according to scriptures & Influence of nādānusandhāna on selective attentio in school children.

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### M.Sc. (Yoga & Management) 2012



Reeta Rani Nayak



Rajitha T



Yengkhom Surbala Devi



Sudipto Mukherjee

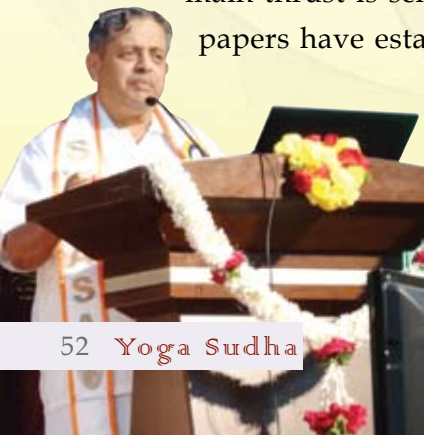


## Ninth Convocation of S-VYASA



**Dignitaries on the stage:** (L-R) Dr. Ramachandra Bhat, Dean; Dr. Sudhir Deshpande, Registrar; Dr. B.N. Gangadhar; Dr. S.C. Sharma, Chief Guest; Dr. H.R. Nagendra, Vice Chancellor; Dr. S.L. Goel; Dr. Madan Mohan; Dr. K. Subramaniam; Dr. R. Nagarathna, Dean  
Yoga University was held on 12<sup>th</sup> January, 2012. This day is the *birth anniversary of the Patriot Saint Swami Vivekananda* and also the *National Youth Day*.

S-VYASA (Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956) a World Class Yoga University's primary objective is to make Yoga - a socially relevant science. SVYASA's main thrust is scientific research. More than 180 research papers have established several beneficial applications of Yoga in Health, Education, Management and other fields. Yoga is an ancient science, which is helping in finding solutions to the modern day *Life Style Disorders*, life Diabetes, Hyper Tension,



Welcome Speech:  
Dr. H.R. Nagendra,  
Vice Chancellor



Asthama, Depression, Arthritis, Back Pain, Obesity etc. *Speed and Greed is the order of the modern times, but Yoga as a solution give peace, harmony and love.*

*The Ninth Convocation* was held on Thursday the 12<sup>th</sup> January, 2012 at 09.30 am at Prashanti Kutiram,

Jigini - the University Campus. **Dr.S.C.Sharma, Vice Chancellor, Tumkur University** was the Chief Guest and has delivered the Convocation Address. Vice-Chancellor, S-VYASA, **Dr H R Nagendra** welcomed the guest and students and latter gave his blessing.



Dr. B.N. Gangadhar awarded the Doctor of Science being felicitated by the Vice Chancellor Dr. H.R. Nagendra and Dr. S.C. Sharma, Chief Guest



Dr. Madan Mohan being awarded the Doctor of Science by Vice Chancellor Dr. H.R. Nagendra and the Chief Guest Dr. S.C. Sharma

Vice Chancellor in his welcome addressed highlighted the achievements of the University, specially its contribution in the field of Health and Education.

Dr.S.C.Sharma the Chief Guest has appreciated SVYASA for creating



Human Resource to carry the scientific aspects of Yoga and its benefits to common man. He also congratulated S-VYASA for its research and its applications through their University, Research Centre and the Holistic Health Home, Arogyadhama

**DOCTOR OF SCIENCE (YOGA):** The University Honored two great Scientists with the Doctor of Science (Yoga) - Honoris Causa to - Dr.B.N.Gandhar, Prof. of the Advanced Centre for Yoga at NIMHANS and to Dr.Madan Mohan, Professor & Head of Dept. of Physiology, JIPMER, Pondichery.



Chief Guest Dr. S.C. Sharma  
honoured by Dr. H.R. Nagendra

**DOCTOR OF PHILOSOPHY (Ph.D):**

1. Sri Balram Pradhan, 2. Sri Itagi Ravi Kumar, 3. Dr. John Ebnezar, 4. Sri Sanjib Kumar Patra, 5. Sri Sushil S.Khemka and 6. Sri Tikhe Sham Ganpt were awarded **Doctor of Philosophy (Yoga) - Ph.D (Yoga)** by **Dr.H.R.Nagendra, Vice Chancellor** and other Dignitaries on the stage.

**Presentation of Graduands:**

Dr R Nagarathna, Dean, Division of Yoga and Life Sciences presented the Graduands to DSc, PhD, MD and MSc (Yoga) students. Prof K Subrahmanyam, Dean, Division of Yoga and Humanities Presented Graduands to MSc (Yoga and Management), MSc (Yoga and Consciousness), MSc (Yoga Educaton) and BSc (Yoga). Dr.Ramachandra G.Bhat, Dean, Yoga & Spirituality gave the Gurup Upadesha.





Oath taken by Graduates

Prior to the Convocation a Sarasvati Yajna was performed by the Deans, Faculty and Students at 05.30am and the students were given Japa Upadesh at 06.15am. It was a beautiful culmination of Spirituality and Science during the early morning during the Brahma Muhurata at Prashanti Kutiram, an abode of peace and serenity.

In all **89 DEGREES / GRADUANDS** will be awarded in this Convocation viz.

Doctor of Science (Yoga)	TWO	M.Sc. (Yoga & Management)	FOUR
Ph.D (Yoga)	SIX	M.Sc. (Yoga & Consciousness)	SEVEN
MD (Yoga & Rehabilitation)	NINE	M.Sc. (Yoga & Education)	TWENTY
M.Sc.(Yoga)	ELEVEN	B.Sc. (Yoga)	THIRTY



The following students were presented with special awards:

Manonmani Rudraiah Award for the Best Thesis among PhD (Yoga) Graduates	Dr John Ebnezar
Laxmi Memorial Academic Excellence Award among MD (Yoga and Rehabilitation) Graduates	Dr Ashwini B C
Madan Mohan Sankhdher Memorial Academic Excellence Award among MSc (Yoga) Graduates	Kum.Shalini C H
Vasishta Award for Best Dissertation among MSc (Yoga) Graduates	Sri R Sendhil Kumar
Venkatanarayana Sastry Memorial Best Student Award among MSc (Yoga and Consciousness) Graduates	Sri Shambhunath Bhat
Dr Dayanand Dongaonkar Memorial Best Student Award among MSc Graduates	Sri Sae Sachin Bapat
Vivekananda Academic Excellence Award among BSc Graduates	Sri Jai Kumar
Dr Dayanand Dongaonkar Memorial Best Student Award among BSc Graduates	Sri Asharaj P



Dr. R. Nagarathna



Dr. Ramachandra Bhat



Prof. Dr. K. Subrahmanyam



## CONVOCAATION ADDRESS

**Dr. S C Sharma**, Vice Chancellor, Tumkur University

H o n o u r a b l e  
President and Vice-  
Chancellor of the  
SVYASA Universit,  
Members of Board  
of Management

and Academic Council of the University, deans of the faculties, faculty members, proud graduating students of this University, distinguished invitees, ladies and gentlemen.

At the outset let me congratulate the graduating students on obtaining their degrees from the SVYASA University. Here you are, with your families and friends, to celebrate the moment, a moment to recognize your extraordinary achievements. On this occasion I would like to encourage you to use your intelligence to achieve success and contribute to humanity.

**Dr. S C Sharma** is an educationist, researcher and an administrator. He is the former Director of Centre for Manufacturing Research & Technology Utilization (CMRTU), Centre for Social Service & Skills Promotion (SKIP) and Principal of R V College of Engineering, Bangalore. Presently, he is the Vice Chairman, Karnataka State Council for Higher Education, Government of Karnataka, Vice Chancellor of Tumkur University, Tumkur. He is a member of State Planning Board of Government of Karnataka. He has eight doctoral conferments and three Honoris Causa Doctor of Science.

He established five Centres of Excellence dedicated to Education & Service for the inopportune. He has guided oppressed class youth



It gives me immense pleasure to deliver this convocation address on the premises of this unique institution of Yoga Studies. As an educationist and as a student of Engineering Studies I feel happy to address the students who are rigorously trained in this esteemed University exclusively meant for Yoga Studies. It is a field of study usually not chosen by contemporary students. Most of them are after attractive disciplines such as Management Studies and Computer Science. I really appreciate your passion for this noble discipline when the entire lot of students is after such disciplines which can fetch them lucrative job-opportunities. Friends, remember we cannot build this nation only with market-friendly disciplines which are mostly borrowed from the western academia. In this respect, the SVYASA University, a pioneering institute of its kind, is unique for being an institution of higher education solely dedicated to the promotion of Yoga studies and research.

We have been witnessing the popularity of Yoga practice across the world. It has indeed become a mass programme in India and abroad. Thanks to the Great Indian Yoga Gurus and teachers. But it has also resulted in the perception about Yoga as a spectacle of the body and its beautification. It has almost become a commodity, a package to keep ourselves fit in the age of intense stress and distress. It is high

to acquire Ph.D., bringing sea change in their families. He has found engineering solutions to the rural issues, the outcome of the research is the development of over 110 advanced materials for low cost housing, earthquake resistant structures, rain water harvesting, agro tools apart from materials for defense & aerospace applications.

He has identified more than 5000 orphans, juvenile delinquents and speech & hearing impaired and provided them education and material support and uplifted them by giving a tryst to their destiny. He is engaged in a relentless battle against unemployment by a fusion of the market requirements and the technical skills of the trainees through the Centre for Social Service and Skills Promotion (SKIP)



time we approach the philosophy of Yoga in a much broader way by rethinking the identity of Yoga not just in terms of some *asanas* (Yogic exercises), but as an enterprise that explores our inner self. It needs to be understood in much deeper ways than merely as a science of some bodily exercises. In my opinion Yoga is a means to attain spiritual fulfillment through the union of body, mind and spirit, not just a remedy for the stressful life. The end result of yoga practice, ideally speaking, must culminate in the bliss of divinity. As you are all aware, I believe, our ancient tradition saw in Yoga a means to achieve higher goals in life. For our ancient seers and spiritual gurus Yoga was a way of engaging in a dialogue with oneself to achieve 'silence'. The most important aspect of Yoga is that it tries to answer one of the most fundamental questions of the world - who am I? Yoga in this sense touches the spiritual plane. I think it is this deeper aspect of Yoga, which has sustained its relevance through the ages that should occupy the central place in our curriculum.

I also believe that this discipline has a tremendous ability to address the problems of the depth-less-ness of our contemporary social life where only superficial and virtual realities are attractive, and they are leading us to nothing but materialism and consumerism.

as its founder Director and the centre has been awarded Karnataka Rajyothsava Award-2005 by the GOK.

He stood for the cause of more than 5,000 weaker section and widowed woman folk in distress by offering training programmes and extension services. The organic humus developed using vermicomposting technology has provided succor to marginal farmers by unfolding indigenous job market. He has rehabilitated 2,000 spastics, leprosy cured children, and deserted women through his time tested, scientifically evolved simplex educational modules.

He has published 110 research papers in International refereed jour-



If the practice of Yoga has survived the onslaught of the society of spectacle it is because of its inherent capacity to heal the wounds caused by our lifestyle. In that sense Yoga is not an institution but a way of life.

Founding a university on Yoga Studies at this juncture, I think, is a great service to our nation. Because the philosophy of Yoga was one of the core disciplines in ancient time; our *rishis* and saints were primarily *yogis* who attained the state of Yoga—union or oneness with the Supreme Spirit through the practice of Yoga. Reviving such a tradition is need of the hour. Unfortunately our indigenous education system is uprooted and is suffering from a deep cultural amnesia. We have yielded ourselves to Westernization in all walks of our life. Hence, the most important task before the Indian education system is to reinvent its strong tradition of basic education system which Mahatma Gandhi described with an apt metaphor as ‘The Beautiful Tree’. The rediscovery of the importance of Yoga in the contemporary scene calls not only for the teaching and learning of Yoga Studies but also a meaningful engagement with sustained research and consultancy activities. In this respect the idea of a university exclusively for Yoga Studies has larger implications in Indian higher education when there are debates going on for and

nals and has delivered keynote addresses in International Conferences. He has presented 375 research articles and has a number of citations. He is the UGC nominated member of the Executive Council of VTU, Belgaum.. He is a member of the Syndicate of Mangalore University, UGC Nominated Senate Member of Jain Viswa Bharati University, Ladnun, Rajasthan, member of the Advisory committee, Indian Institute of Dalit Studies, New Delhi, member of the Governing Council (VC Nominee, VTU) of Sir MVIT, Bangalore.

He has authored a number of books for the novice and the devout, one of which have received Sahitya Academy Award for his book in Kannada. He has established a techno culture museum ‘Kriyakalpa’,



against such an idea of a mono-discipline university. This is an age of both horizontal and vertical integration in academics.

However, in the Indian context the role and function of the university is being perceived in a narrow sense. The demands made upon the institutions of higher learning, often utilitarian in their attitude, are not quite sensible. Universities are not meant for developing potential employment competency and job skills in students. They should be the places of 'higher learning' in the strict sense of the word. Therefore, the word 'Higher' in Higher Education does not mean any education after high school and pre-university level. It should be a site where production and dissemination of knowledge takes place at an advanced level. To put it in other words, the aim of higher education is not merely to connect itself with industry but to explore new horizons of knowledge and truth. Its essence must aim at exploring the truth. Our education system needs to come out of the clutches of British educational programmes; it still remains the brain child of Macaulay.

This brings me to an important issue with regard to an important onus on Indian education system in general and higher education in particular. The onus is to revive the very Indian way of learning and teaching. In this connection I am reminded of Dharampalji, a great

which focuses on the technological content in the centuries old practices and is honoured with Janapada Yakshagana Academy Awards – 2000 by the GOK.

He is a recipient of 'Rajyothsava Award', of Karnataka State, UGC Career Award, UGC National Fellowship and KEMPEGOWDA Award of Bangalore City Corporation, Dr. B R Ambedkar and Babu Jagajeevanram Awards of GOK, Mother Theresa Award of the Centre for Socio-Economic Development, Bangalore and Karnataka Kalashree Award and Ganakalashree Award for his contributions to the field of music.



Gandhian and historian of Indian science and education. I would like to draw your attention to an excellent work by Dharampalji. He is the definitive authority on Indian basic education system, and has rigorously researched the ancient education structure that prevailed before the arrival of the Europeans. His book *The Beautiful Tree*, a metaphorical title and concept inspired by Mahatma Gandhi's description of indigenous education system in India, tries to explore the local knowledge systems and schooling. I believe it is a landmark research work in the history of Indian educational studies as it remarkably reconstructs the basic education structure of pre-British India. Along the project of Dharampalji our higher education needs to rebuild its identity without forgetting the glory of our ancient universities of Takshashila and Nalanda, which were extensively talked about by the Greek and the Chinese travelers. I am referring to Dharampalji precisely because I clearly see the parallels of recovering the lost traditions on the SVYASA campus. I congratulate the management of the SVYASA for conceptualizing such an education system and for doing yeoman service to the field of Yoga studies and research.

Having the experience of working in the Higher Education sector, I have clearly observed that as the phase of expansion of Higher Education in our country is underway, the project has already embarked upon the task of excellence. We are witnessing both expansion and excellence together in the sector. It is a challenging task for all of us to meet these criteria. One of the niche areas we need to seriously address in terms of excellence is research and extension activities. Of course, teaching and research must go hand in hand. But my dissatisfaction is about the quality of research that is taking place in Indian academia. The kind of research our universities in general are doing is not up to the mark. On the one hand we have an acute shortage of infrastructural facilities for creating research culture; on the other our young researchers lack clear-cut understanding of their research problems due to lack of





good mentors and research models for emulation. Of course, we all need degrees and advancement in our career, but not at the cost of the quality of research we undertake. We should carry out research to contribute genuinely to the world of knowledge and not just for the sake of getting degrees.

From your choice of Yoga Science as the area of knowledge of greatest interest to you, there are some questions which I presume you will try to mull over during your future endeavors. First, what will Yoga Studies offer to the twenty-first century? How to transform Yoga Science as cachet discipline? How can studies and research in Yoga contribute to world peace? How to put India as a nation on the global scenario through Yoga practice and teaching? I am sure the training you have received at the SVYASA will certainly enable you all to answer not only these questions but also other questions the future raises.

Ladies and gentlemen, this University, I believe, should continue to stand on the principle that advancement of knowledge and practice in Yoga is intrinsically worthy. I am quite impressed by the peaceful ambience and academic environment of this campus. I am also overwhelmed by the SVYASA hub, variety of courses it offers, and more importantly the teaching faculty, trained in various cutting-edge disciplines, committed to the promotion of Yoga Studies. With this kind of assets I am sure this university will scale greater heights in the future. Graduating friends, I join your teachers and well wishers in congratulating you once again. I wish you all the best in everything you do.

*Thank you ladies and gentlemen*

# Yoga Sudha

A monthly Journal on Yoga



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Editor: DR. H.R. Nagendra

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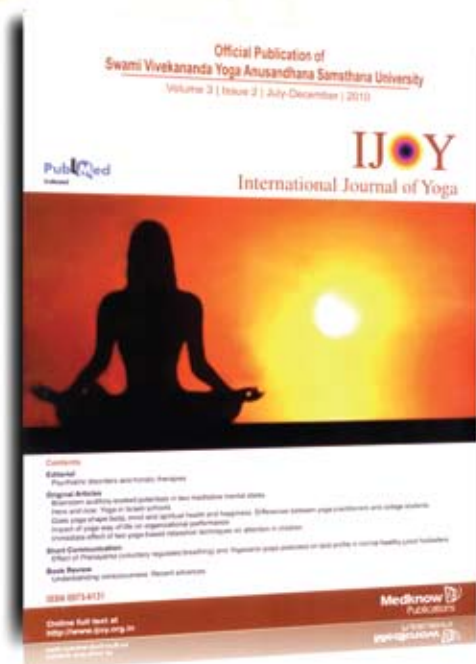
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