

ADVANCED CENTRE FOR YOGA, NIMHANS, BANGALORE-29

(IN COLLABORATION WITH MORARJI DESAI NATIONAL INSTITUTE OF YOGA, NEW DELHI)



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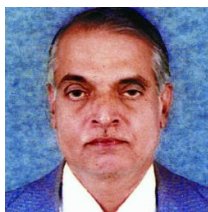
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Advanced Centre for Yoga thanks Dr. D.Nagaraja & Dr. S.K.Shankar

Former Directors of NIMHANS and Former Chairmen, Monitoring Committee, Advanced Centre for Yoga



Dr. D. Nagaraja

Dr. D. Nagaraja is professor of Neurology at NIMHANS. Formally trained in both psychiatry (DPM) and Neurology (DM), Dr. D. Nagaraja served as Director of NIMHANS for more than 7 years. He was instrumental in establishing Advanced Centre for Yoga at NIMHANS in collaboration with Morarji Desai National Institute of Yoga, New Delhi. As chairman of monitoring committee, he guided and supported the Advanced Centre for Yoga in all its endeavors. Advance Center for Yoga sincerely thanks Dr Nagaraja for the support and encouragement.



Dr. S.K. Shankar, professor & HOD of Department of Neuropathology took charge as Director/Vice Chancellor of NIMHANS in Feb 2010, continued the support during his tenure as chairman of monitoring committee. We thank Dr Shankar for his support.

Hearty Welcome to Dr. P. Satish Chandra, New Director/VC, NIMHANS and Chairman, Monitoring Committee, Advanced Centre for Yoga, NIMHANS

Dr. P. Satish Chandra, the current Director-Vice Chancellor of NIMHANS is a senior Professor of Neurology. He obtained his D.M. (Neurology) from NIMHANS in 1982 and since then has worked as a faculty member in the Department of Neurology.

Fellowships: During his career he has been granted several prestigious fellowships, including the 'International Neuro-Sciences Fellowship' at National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH), Bethesda, USA for one year, sponsored by WHO-Fogarty-NIH. He heads the special clinic for epilepsy at NIMHANS and had conducted a scientific research exploring the role for Yoga in Refractory Epilepsy.



Dr. P. Satish Chandra, Director / VC

Important Announcement

Advanced Centre for Yoga, NIMHANS is organizing a one-day seminar on "Yoga in Depression", Theme: **Research on Yoga in Depression: Neuroimmunology & Neuroplasticity**, on 26th September, 2010 at Yoga Centre, NIMHANS.

Kindly refer to the last page for more details.

“Cutting Edge
Research and
communicating the
results will boost
acceptance of Yoga
as therapy in
contemporary
medical practice “

Editorial.....

Yoga Therapy in Contemporary Medical Practice: What is the way ahead?

There is little doubt that yoga therapy has gained popularity. This popularity, it appears, is end-user-driven: individuals with varied health-related issues seem to opt for yoga therapy on their own. Few medical practitioners actively prescribe yoga therapy for their patients with different ailments. It is time yoga therapy practitioners and researchers mull over the reasons for this discrepancy.

Doctors are trained, for all the right reasons, to view any new treatment through the lens of evidence-based medicine. Randomized-controlled, placebo-controlled trials have become the *de facto* gold standard to evaluate treatments in general; very few yoga therapy trials can come close to this standard. For obvious practical reasons, this standard may never be reached. For example, finding a ‘control’ treatment, which mimics yoga therapy but does not carry the effects of yoga, has remained a challenge. While using controls, such as exercise, wait list, etc., which are commonly used in contemporary research, patient blinding is impossible in a culture, where yoga is widely known. Given these limitations, objective measures of yoga effects are an answer to this challenge. The time is now ripe for professional bodies to agree upon a standard of evidence that should be acceptable as reasonable evidence for yoga therapy.

Doctors may be genuinely concerned about potential adverse effects of yoga therapy. Very little systematic data exists regarding adverse effects of yoga therapy. Contraindications for different yoga postures are listed in several texts. However, several questions remain unanswered. Are these comprehensive enough? Are they consistent across the texts? Do they have a firm physiological basis? Are there any contraindications / safety precautions? Do yoga clinicians follow a protocol to screen their patients for these conditions? Professional bodies should make concerted efforts towards having scientific documentation of adverse effects. This can help caution the therapists and the patients of potential contraindications to different yoga practices. A standard of practice based on this knowledge would enhance the confidence of referring doctors.

As originally conceptualized, yoga is a way of life. Its use for treating illnesses (‘yoga therapy’) may be a relatively recent concept – it is likely to be an apparent offshoot of observed benefits of yoga on health. Yoga therapy is not developed based on the contemporary understanding of human physiology and pathophysiology that is taught to allopathic doctors. As yoga therapy is making large strides in contemporary medical practice, some yoga therapists/ researchers who come from allopathic medical background have begun to make efforts at selecting yoga procedures from this understanding. However, need for research to understand mechanisms of therapeutic action of yoga in the treatment of specific illnesses cannot be overemphasized. Conducting such research and communicating the results to the medical community would go a long way in melting the mental block that contemporary doctors may have regarding the use of yoga therapy in their routine practice.

Dr. Jagadisha Thirthalli is an Associate Professor in the Dept of Psychiatry, NIMHANS. In addition to Yoga Therapy in psychiatric disorders, he possesses research interest in course and outcome of severe mental disorders, electroconvulsive therapy and transcranial magnetic stimulation. He has several publications, awards and conference presentations to his credit.

Yoga Therapy Services for Psychiatric & Neurological Disorders



Advanced Centre for Yoga at NIMHANS has been offering Yoga therapy for both in-patients and outpatients. 1958 patient/therapy sessions were conducted for a total of 64 patients suffering from different psychiatric and neurological conditions referred from clinical services of NIMHANS. Each patient received yoga therapy session from seven days to one month. 1550 caregiver/sessions were offered for caretakers/attenders/relatives of patients with psychiatric and neurological disorders.

Quarterly Statistics

Patient Category	No. of patients
Psychiatry	635 patient / sessions
Caregivers	1550 patient/sessions
Child Psychiatry Ward	1323 patient/sessions
Psychiatry New Referrals	64 patients

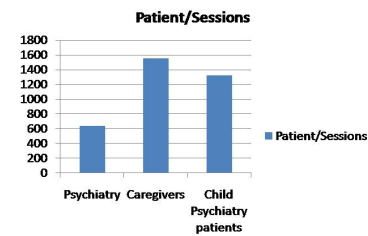


Table - No of patients treated at Advanced Centre for Yoga, NIMHANS

Yoga Services at Psychiatric & Neurological wards


Yoga services at Psychiatric & Neurological wards is an initiative by Advanced Centre for Yoga, NIMHANS to reach out to all inpatients treated at NIMHANS through staff nurses. This program was launched after the staff nurses deputed from various psychiatric and neurological wards were trained in Yoga.

Since the launch of this program two batches of staff nurses were trained for about one month covering selected yogic practices, four theory lecture classes about basics of yoga and its role in psychiatric & neurological disorders, and one week of hands-on training in yoga teaching techniques. A total of 20 nurses took benefit of this Yoga Teachers' Training program.

As a result, currently these trained staff are conducting classes at various psychiatric including closed wards & neurological wards. Information about their experiences and barriers to Yoga teaching in the wards were noted through a structured questionnaire. Advanced Centre for Yoga is currently involved in planning a refresher course to these trained nursing staff and addressing the difficulties expressed by them in teaching Yoga at wards.

Ward	No of patients daily (Average)	No of Sessions /Month
Psychiatry A Block	14	25
Psychiatry B Block	15	20
Psychiatry C Block	25	20
Psychiatry Pavilion 4	6	15

Academic Program: Guest Lecture Series



 INVITES YOU ALL
 To
 A Lecture on
"Stress Physiology & Yoga"
 By : Dr.B.N.Gangadhar
 Professor of Psychiatry and Program Director
 Advanced Centre for Yoga
 Department of Psychiatry, NIMHANS
 Venue: Yoga Centre, NIMHANS
 Date: 8th April, 2010 (Thursday)
 Timings: 3.00 - 4.00 pm
 To Register, kindly call 26995730 / 26576465
 Or Email: yoga.nimhans@gmail.com


"Stress Physiology & Yoga" by Dr. B.N.Gangadhar, Professor of Psychiatry, NIMHANS

Venue: Advanced Centre for Yoga, Date: 8th April, 2010

Dr.B.N.Gangadhar, Professor of Psychiatry and Program Director, Advanced Centre for Yoga, NIMHANS gave a lecture on "Stress, Physiology and Yoga". He emphasized that stress is considered as number one killer. Stress jeopardizes the body's resistance to infections, and is indirectly responsible for 90% of visits to doctors. Defining "Stress" as a state of strain on body and mind forcing a change in homeostasis, he pointed out that all stress need not to be distress always. He said "stress" often means "distress" which is an environmental demand that creates a state of tension or threat and forces change or adaptation. Elaborating the definition of stress, he said it is a negative emotional experience accompanied by biochemical, physiological, cognitive and behavioral changes. Body responds to stress physiologically experienced as drying of mouth, butterfly sensation in the stomach, increase in blood pressure and heart rate, increased sweat, constriction of peripheral blood vessels. Long term stress leads to : immunosuppression, premature cognitive aging, visceral obesity, insomnia, oxidative DNA damage and hippocampus degeneration. Emphasizing the role of Yoga in coping stress, he pointed to the studies showing the role of yoga and other meditative practices in improving interferon regulatory factor gene that helps protection against infections and reducing oxidative DNA damage. Going through the list yogic practices that would help coping stress, he gave an overview about his research work on fMRI correlates of OM Meditation.

"Sleep and Yoga" by Dr. Bindu Kutty, Professor of Neurophysiology, NIMHANS

Venue: Advanced Centre for Yoga, Date: 14th May, 2010. Chaired by: Dr. I.V.Basavaraddi, Director, MDNIY, New Delhi



 INVITES YOU ALL
 To
 A Lecture on
"Sleep & Yoga"
 By : Dr. Bindu, M. Kutty
 Additional Professor,
 Department of Neurophysiology
 National Institute of Mental Health & Neurosciences
 (NIMHANS), Bangalore
 Venue: Yoga Centre, NIMHANS
 Date: 14th May, 2010 (Friday)
 Timings: 3.00 - 4.00 pm
 To Register, kindly call 26995730 / 26576465
 Or Email: yoga.nimhans@gmail.com

Dr.Bindu Kutty, Associate Professor, Department of Neurophysiology gave a lecture on "Sleep and Yoga". Lecture started with a brief overview about Sage Patanjali's eight limbed approach to self realization very widely known as "Astanga Yoga". Quoting various definitions on Meditation/ Dhyana from both classical and modern authors, she gave an insight on different forms of Meditation such as Mindfulness Meditation (Vipasana/Zen/Buddist Medtation), Concentrative Meditations like Transcendental Meditation™, Brahma Kumaris Raja Yoga Meditation, Kundalini Meditation and others. She remembered Swamy Kavalayananda of Kaivalyadhama Yoga Institute Lonavala as foremost Indian yogi researcher to have carried out earlier preliminary scientific works on Yoga/ Meditation. Referring to her works on Neural correlates of consciousness; she said neuroimaging studies show increased synchronized neuronal activity expressed as increased gamma and theta synchronization. She emphasized that long term meditative practices can bring about changes in the physical structure of the brain. Several neuroimaging studies have shown increased cortical thickness especially in right prefrontal cortex, anterior insula, somatosensory cortex and auditory cortices. She said reason for this neuroplastic changes may be due to enhanced synaptic restructuring, increased glial volume or increased regional vasculature. Meditation practice can slow down the age related thinning of frontal cortex and occipito-temporal regions as shown in a study where the average cortical thickness of old meditators (50 yrs) were comparable with 20-30yrs of young meditators. Therefore, she opined that regular practice of meditation can slow the process of neural degeneration. Concluding the first part of her lecture, Dr.Kutty said EEG, ERP and neuroimaging studies provide insight that yoga practices bring about over all enhancement in cognitive and mental performances, delayed aging process and enhanced feeling of well being. In the second part of her lecture, she dealt with definitions of sleep, difference between sleep and wakefulness states. Defining enough sleep as the amount to have the subject to arouse without the aid of an alarm and feeling refreshed to prevent daytime sleepiness, she emphasized the importance of enough sleep to prevent cardiovascular disorders, metabolic disorders, obesity, affective disorders and immune dysfunction. Further she highlighted the effects of yoga & meditation in improving sleep and its usefulness in treating insomnia.

Origins of Suryanamaskara

In ancient Indian culture, 'Sun' is seen as a visible symbol of the infinite power, glory and majesty of the unseen almighty. Ancient origins of Suryanamaskara dates back to Vedic period. 'Trucha Kalpa Nitya Vidhi' from Rigveda and 'Aditya Prashna' from Krishna Yajurveda are the popular ancient vedic forms of performing salutations to Sun God. The Puranas, specifically Ramayana which is believed to be written after the Vedas contains descriptions about performing sun salutations with mantras that are similar to contemporary Suryanamaskara.

Vedic Origins:

Vedic literature shows numerous references of praising the Lord Sun for the purpose of good health and prosperity. Practiced as a 'Nitya Vidhi' (daily ritual) salutations to Sun is practiced incorporating some of these vedic hymes. One such practice observed in Rigveda is called "**Trucha Kalpa Namaskarah**".

Trucha Kalpa Namaskarah: (Ref – Rigveda, 1st Mandala, 50th Sukta)

In vedic literature, each mantra is known as a "Rucha" and group of three ruchas is called as "Trucha". Trucha Kalpa Namaskarah is Vedic method of performing salutations to Sun.

Sankalpa:

The nitya vidhi of Suryanamaskara starts with a 'Sankalpa' (Resolution) by praying the Sun requesting good health and strength.

Dhyana Mantra:

Followed by 'Sankalpa', a dhyana mantra is recited admiring the glory of the almighty.

Verse:

dhyeyḥ sada savitrmaṁalamadhyavarti
narayaṇaḥ sarasijasanasarṁmiviṣṭaḥ |
keyuravan makarakuṁalavan kiriṭi
harihirṇmayavapurdhṛtasarṁkhacakraḥ ||

[Meaning of the verse: Worship always the almighty (The Sun) sitting at the center of his galaxy of lotus, wearing keyur (bracelets), makarakundal (big ear rings) crown and holding conch, chakra and having glittering golden body]

Suryanamaskara Mantra

The dhyana mantra is followed by Suryanamaskara by chanting mantras. These mantras consist of three ruchas taken from 1st Mandala, 9th Anuvak, 50th Sookta of Rigveda arranged in a specific way. Composed by Sage Kanva, performing Suryanamaskara by chanting these ruchas are said to cure various physical and mental illnesses bringing health & happiness.

These ruchas are:

udyannadya mitramaha arohannuttaraṁ divam |
hr̥droghaṁ mamasurya harimaṇaṁ ca nasaya || (1st Rucha)
sukeṣu me harimaṇaṁ ropaṇakasu dadhmasi |
atho haridraveṣu me harimaṇaṁ ni dadhmasi || (2nd Rucha)
udaghadayamadityo visvena sahasa saha |
dviṣantaṁ mahyaṁ randhayan mo aham dviṣate radham || (3rd Rucha)

[Meaning:

Rucha 1: Raising this day, O rich in friends, ascending to the loftier heaven, Surya remove my heart's disease, take from me this my yellow hue.

Rucha 2: To parrots and to starlings let us give away my yellowishness, or this my yellowishness let us transfer to Haritala trees.

Rucha 3: With all his conquering vigour this Aditya has gone up on high, giving my foe into mine hand: let me not be foeman's prey.]

Summery:

The radiant Sun raising in the sky is requested to destroy the diseases in heart (mind) and physical illnesses.

Research Work (Collaborative)

EFFICACY OF YOGA THERAPY AS AN ADD-ON TREATMENT FOR IN-PATIENTS WITH FUNCTIONAL PSYCHOTIC DISORDER

* **Manjunath RB, Varambally S, Gangadhar BN**

Aim of the study: To study the effects of yoga as an add-on treatment in the management of patients with Schizophrenia.

Hypothesis: Yoga as an add-on treatment will help in the improvement of negative symptoms, depressive symptoms and overall improvement in schizophrenic patients.

Procedure: Eighty eight patients meeting inclusion criteria (n=88) were recruited from the inpatient services of NIMHANS for the study. The patients were randomized to one of the two groups: (a) Yoga therapy (n=44) and (b) Physical exercise (n=44).

The participants of the first group were offered yoga therapy training (1 hour daily) for a period of two weeks by a trained yoga therapy instructor from the Advanced Yoga therapy Centre at NIMHANS. Patients in the physical exercise group were taught physical exercises taken from standard Physical Training (PT) text (NIFC-National Fitness Corp) book for high school students (1 hour daily) for two weeks. Conventional counseling & medication were common to all groups. Both groups were asked to continue practice up to one month.

Results: 60 of the 88 patients completed the study period of one month from the first follow up (35 in the yoga group and 25 in the exercise group). Both the groups showed significant improvement in CGI severity of illness score, PANSS scores, HDRS scores, from the baseline scores. There was no significant difference between the two groups except that the depressive symptoms improved more rigorously in the yoga group than as compared to the physical exercise group.

Conclusions: Yoga therapy may be introduced as an add on agent to the pharmacological treatment in the routine management of moderately ill schizophrenia inpatients, considering its relative positive effects and no significant adverse effects. Add-on Structured physical activity would benefit all in-patients in the management of their illness.

EFFECT OF YOGA THERAPY ON ANXIETY, DEPRESSION AND QUALITY OF LIFE AMONG CAREGIVERS OF IN-PATIENTS WITH NEUROLOGICAL DISORDERS AT A TERTIARY CARE CENTER IN INDIA: A RANDOMIZED CONTROLLED STUDY (Manuscript in preparation for publication)

* **Umadevi M, Ramachandra, Varambally S**

Background: Caregivers of patients with neurological disorders have high levels of stress, anxiety, and diminished quality of life. Yoga appears to provide a considerable improvement in stress, anxiety and general health measures in healthy controls as well as in various physical and mental disorders.

Objectives: To assess the level of anxiety, depression and quality of life among the care givers of inpatients with neurological disorders and the effect of a structured yoga package on these parameters.

Design: A randomized controlled trial.

Setting: Neurology inpatient services, National Institute of Mental Health and Neurosciences, Bangalore, India.

(Continued in next page)

Research Activities at Advanced Centre for Yoga, NIMHANS

Method: The study adopted a simple random sampling method. Sixty subjects were randomized into control (N=30) and experimental group (N=30) by using computer generated list of random numbers with allocation concealment. The subjects' anxiety and depression levels were assessed by using Hospital Anxiety & Depression scale (HADS), and the quality of life by WHO Quality of Life-BREF. Subjects in the experimental group were trained in a structured yoga module for ten days and continued practice up to one month. The control group did not receive any intervention. Both groups were assessed on the rating scales at baseline and at the end of one month. . The subjects' Yoga performance was assessed by the researcher after 10 days by using Visual Analogue Scale . There were 10 dropouts in the experimental group and 7 drop outs in the control group.

Results: The analysis revealed that there was a statistically significant ($p < 0.001$) decrease in anxiety & depression and improved quality of life among the subjects in the experimental group than in the control group.

Conclusion: The study concluded that the Yoga therapy was effective in decreasing anxiety, depression, and improving the quality of life among caregivers of neurological inpatients compared to no intervention. In the present scenario of caregiver stress ever increasing despite the advances in health technology, simple but planned Yoga intervention by nurses may be a cost-effective method for reducing caregiver stress.

Ongoing Research Projects

Efficacy of Yoga in Attention Deficit/ Hyperactivity Disorder (ADHD): An open trial

Status: Data is being analyzed for publication.

Effect of Yoga Therapy on neuroplasticity and cognitive functions of patients with depression

Status: Eighty subjects have been recruited for the study. The data from the pilot study is being currently analyzed for publication.

Yoga therapy for Mild Cognitive Impairment—fMRI and biochemical correlates

Status: Twelve subjects have been randomized into the study. Subjects are being invited to the participate in the study through senior citizen forums, elderly homes and paper advertisements.

Adjuvant yoga therapy for late onset depression: fMRI and biochemical correlates

Status: Five patients have been recruited for the study. Subjects are screened through OPD services and Geriatric clinic, NIMHANS

Effects of Yoga Therapy on Heart Rate Variability in Anxiety Disorder Patients: An Open Trial

Status: Seven patients have been screened. Five subjects have consented and have been recruited for the study.

Collaborative Research Work

Advanced Centre for Yoga is assisting yoga related studies taken up by students pursuing their higher studies at NIMHANS. Currently two such studies are underway:

- **Effects of yoga therapy on facial recognition deficits and plasma oxytocin in patients with schizophrenia. (as a part of MD Psychiatry thesis by Dr. Naveen.J)**
- **Short term effects of Yoga therapy on cognitive functions in elderly (as a part of MD Psychiatry thesis by Dr.Vinayak Koparde)**

Attention Readers

Advanced Centre for Yoga, NIMHANS
is organizing

“ONE DAY SEMINAR ON YOGA IN DEPRESSION”

Theme: *Research on Yoga in Depression: Neuroimmunology & Neuroplasticity*

Date: 26th September, 2010

Venue: Neurofaculty Centre Seminar Hall, NIMHANS

Potential Participants: MBBS & PG students, AYUSH Doctors, PG's in life sciences

Registration Fees: Rs 50 only. To register Kindly contact Dr.Naveen G.H/Mrs.Lalitha

Kindly Note: Posters are invited on this topic and awards for best posters will be given.

Book Post



To,

Mr/Mrs/Dr

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.....



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