

# 22<sup>nd</sup> INCOFYRA

International Conference on Frontiers  
in Yoga Research and Its Applications

**Theme:** Integrative Oncology: The Future of Cancer Care

**Jan 5-8, 2018 | Prashanti Kutiram, Bengaluru - 560 105**

Souvenir Souvenir Souvenir Souvenir Souvenir



# Souvenir



Organised by: **VYASA**, Bengaluru  
Technical Support by: **S-VYASA**, Bengaluru  
In Association with: **IYA**, New Delhi



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# **22<sup>nd</sup> INCOFYRA**

22<sup>nd</sup> International Conference on Frontiers  
in Yoga Research and Its Applications

Theme  
Integrative Oncology:  
The Future of Cancer Care

# **Souvenir**

Jan 5 - 8, 2018

Venue  
**Prashanti Kutiram**  
International Headquarters of VYASA, Bengaluru

Organised by  
**Vivekananda Yoga Anusandhana Samsthana**  
(VYASA), Bengaluru

Technical Support by  
**S-VYASA**  
**Swami Vivekananda Yoga Anusandhana Samsthana**  
(Deemed-to-be University under Section 3 of the UGC Act, 1956)  
Bengaluru

In Association with  
**IYA**  
**Indian Yoga Association**  
New Delhi

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# Conference Organizing Committee

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# *Conference* Song



# ॥ भविष्यद्बुदचिकित्सायनम् ॥

महान्प्रकोपोऽबुदरोगजन्यः त्रस्तं जगन्मारकरोगभीत्या ।

कार्काटकीयात् भवताद्विमुक्तिः योगस्य मार्गोऽस्ति निवृत्युपायः ॥ पल्लवी ॥

*Mahānprakopo'rbudarogajanyaḥ Trastani jagannāarakarogabhītyā ।  
Kārkāṭakīyāt bhavatādvimuktiḥ Yogasya mārgo'sti nivṛtyupāyaḥ ॥ Pallavī ॥*

ಮಹಾನ್ಪ್ರಕೋಪೋಽಬುರೋಗಜನ್ಯಃ ತ್ರಸ್ತಂ ಜಗನ್ಮಾರಕರೋಗಭೀತ್ಯಾ ।  
ಕಾರ್ಕಾಟಕೀಯಾತ್ ಭವತಾದ್ವಿಮುಕ್ತಿಃ ಯೋಗಸ್ಯ ಮಾರ್ಗೋಽಸ್ತಿ ನಿವೃತ್ಯುಪಾಯಃ ॥ ಪಲ್ಲವಿ ॥

It is highly alarming that the growth of cancer is spreading everywhere.

People have developed phobia of this deadly disease.

It catches men like a crab and Yoga is the only panacea.

गवेषणं चार्बुदशोधमार्गे द्वाविंशतिर्विश्वजनीनसत्रम् ।

मृत्योर्वशं यान्ति जना हि नूनं दूरीकरोत्यर्बुदरोगजालम् ॥ १ ॥

*Gaveṣaṇani cārbudaśodhamārgē Dvāviṅśatiroviśvajānīnasatram ।  
Mṛtyorvaśāntiyānti janā hi nūnaṁ Dūrikarotyārbudarogajālam ॥ 1 ॥*

ಗವೇಷಣಂ ಚಾರ್ಬುರೋಧಮಾರ್ಗೇ ದ್ವಾವಿಂಶತಿರ್ವಿಶ್ವಜನೀನಸತ್ರಮ್ ।

ಮೃತ್ಯೋರ್ವಶಂ ಯಾಂತಿ ಜನಾ ಹಿ ನೂನಂ ದೂರೀಕರೋತ್ಯರ್ಬುರೋಗಜಾಲಮ್ ॥ 1 ॥

Welcome to 22<sup>nd</sup> INCOFYRA to know about cancer and its control. Cancer is the dreaded disease of the world. Once you have cancer, your days are numbered. Modern Medical System uses chemo and radiotherapy or surgery to kill the cancer cells.

आधिक्षये व्याधिरपेत्य दूरं निर्व्याधिभावं निपुणं प्रशास्ति ।

कोशात्मभावात् भविता हि व्याधिः कोशस्य मूले भवताच्चिकित्सा ॥ २ ॥

*Ādhikṣaye vyādhirapetya dūraṁ Nirvyādhibhāvaṁ nipuṇaṁ praśāsti ।  
Kośātmbhāvāt bhavitā hi vyādhīḥ Kośasya mūle bhavatāccikitsā ॥ 2 ॥*

ಆಧಿಕ್ಷಯೇ ವ್ಯಾಧಿರಪೇತ್ಯ ದೂರಂ ನಿರ್ವ್ಯಾಧಿಭಾವಂ ನಿಪುಣಂ ಪ್ರಶಾಸ್ತಿ ।

ಕೋಶಾತ್ಮಭಾವಾತ್ ಭವಿತಾ ಹಿ ವ್ಯಾಧಿಃ ಕೋಶಸ್ಯ ಮೂಲೇ ಭವತಾಚ್ಚಿಕಿತ್ಸಾ ॥ 2 ॥

Yoga tackles root cause of the problem Ādhi at Manomaya Kośa which creates imbalances in Prāṇamaya Kośa, leading to cancer in Annamaya as Vyādhi.

विपर्ययश्चास्ति निवारणं नः आधेश्च मूलं तदिदं हिनस्ति ।

सुशान्तितन्त्रं बहुधा प्रयुक्तं अन्तर्निरोधे स भवेदुपायः ॥ ३ ॥

*Viparyayaścāsti nivāraṇaṁ naḥ Ādheśca mūlaṁ tadidaṁ hinasti ।  
Sūsāntitantraṁ bahudhā prayuktam Antarnirodhe sa bhavedupāyaḥ ॥ 3 ॥*

ವಿಪರ್ಯಯಶ್ಚಾಸ್ತಿ ನಿವಾರಣಂ ನಃ ಆಧೇಶ್ಚ ಮೂಲಂ ತದಿದಂ ಹಿನಸ್ತಿ ।

ಸುಶಾಂತಿತಂತ್ರಂ ಬಹುಧಾ ಪ್ರಯುಕ್ತಂ ಅಂತರ್ನಿರೋಧೇ ಸ ಭವೇದುಪಾಯಃ ॥ 3 ॥

Unless Ādhi is tackled, there is no solution; Prāṇic imbalances should be set right.

Confusion of immune system to consider cancer cells or its good friends due to Viparyaya has to be removed, by techniques of deep relaxation and Cyclic Meditation tools.

## ॥ भविष्यद्बुद्धचिकित्सायनम् ॥

प्राणस्यान्तःशक्तिपातः परं नो MSRT इत्यादि तन्त्रं हि सिद्धम् ।  
विज्ञानस्याप्यत्र कोशः सचेताः आनन्दस्याप्यत्र चाविर्भवो नः ॥ ४ ॥

*Prāṇasyāntaḥśaktipātaḥ parāṇi no MSRT ityādi tantrāṇi hi siddham ।  
Vijñānasyāpyatra kośaḥ sacetaḥ Ānandasyāpyatra cāvīrbhavo naḥ ॥ 4 ॥*

ಪ್ರಾಣಸ್ಯಾಂತಃ ಶಕ್ತಿಪಾತಃ ಪರಂ ನೋ MSRT ಇತ್ಯಾದಿ ತಂತ್ರಂ ಹಿ ಸಿದ್ಧಮ್ ।  
ವಿಜ್ಞಾನಸ್ಯಾಪ್ಯತ್ರ ಕೋಶಃ ಸಚೇತಾಃ ಆನಂದಸ್ಯಾಪ್ಯತ್ರ ಚಾವಿರ್ಭವೋ ನಃ ॥ 4 ॥

Advanced techniques of yoga PET at Prānamaya Kośa to bring Prānic balance; MSRT, MIRT, MEMT at Manomaya Kośa to eradicate Ādhi, VISAK at Vijnanamaya Kośa to prevent recurrences, ANAMS at Ānandamaya Kośa to enhance quality of life of Ānanda.

कोशात्मके पञ्चविधे शरीरे "आयुष्" चिकित्सा परिपूर्णरूपात् ।  
प्रकल्पतो देशसमस्तव्याह्या सिद्धिः परापूर्वपरार्धसङ्गात् ॥ ५ ॥

*Kośātmake pañcavidhe śarīre "ĀYUṢ" cikitsā paripūrṇarūpāt ।  
Prakalpato deśasamastavyāptyā Siddhiḥ parāpūrvaparārdhasaṅgāt ॥ 5 ॥*

ಕೋಶಾತ್ಮಕೇ ಪಂಚವಿಧೇ ಶರೀರೇ 'ಆಯುಷ್' ಚಿಕಿತ್ಸಾ ಪರಿಪೂರ್ಣರೂಪಾತ್ ।  
ಪ್ರಕಲ್ಪತೋ ದೇಶಸಮಸ್ತವ್ಯಾಹ್ಯಾ ಸಿದ್ಧಿಃ ಪರಾಪೂರ್ವಪರಾರ್ಧಸಂಗಾತ್ ॥ 5 ॥

All AYUSH systems based on Pañca Kośa model promote Lifestyle changes to control cancer.  
Ministry of "AYUSH" has taken up an impressive nationwide project to control cancer.  
Using Best of the West (Allopath) with that of the East (AYUSH), 22<sup>nd</sup> INCOFYRA  
is the launch pad for integrative approach for cancer control.

*Join us in this*

*Great Opportunity to participate in the National Movement of  
Ministry of Health and Family Welfare and of AYUSH*



■ **Prof. Ramachandra G Bhat**

Vice Chancellor, S-VYASA | Chairman, VVSS, Bengaluru  
Incharge, Project Gurukula, BSM, Nagpur

# Vision Statement from the President



*My dear brothers and sisters...*

On behalf of the organising committee of International Conference on Frontiers in Yoga Science and Application (INCOFYRA), staff of S-VYASA & VYASA and International Yoga Association (IYA), I welcome you to the 22<sup>nd</sup> INCOFYRA happening between 6<sup>th</sup> and 8<sup>th</sup> of January, 2018 at *Prashanti Kutiram* campus of S-VYASA University.

The theme for the 22<sup>nd</sup> INCOFYRA, “Integrative Oncology”, has been chosen with an aim to propose and promote integration of traditional systems of medicine to combat the growing prevalence of cancer incidences. The prevalence of cancer has increased over the past decade and is expected to rise by 8% in the next 5 years. Traditional approach is becoming more and more sought after because of its obvious benefits like low cost, no side effects and its ability to bring about overall improvement. The cancer treatment is very expensive which is beyond reach of 60% of the world population. Also debilitating side effects of the conventional treatment is a much discussed topic in the medical fraternity as is the need for improvement in the palliative care of the cancer survivors. Several traditional remedies especially from Ayurveda, Siddha and traditional medicines are gaining popularity because of its considerable low cost. While Yoga, with its ability to bring about overall psychological and physiological betterment, has been shown to convincingly address the consequences arising out of cancer and/or its treatment along with reducing the number of remissions.

Though elaborate description of cancer etiology and pathology is available, courtesy modern medical research, combating the disease with surefooted accuracy is still awaited. Cue has to be taken from modern medical research to adopt its empirical methodologies to bring out evidence for the curative vistas of traditional systems of medicine. Simultaneously the need of the

hour is to shed light on best way to integrate the knowledge from different systems systematically for plebeian benefit.

An effort is made in this direction through 22<sup>nd</sup> INCOFYRA by bringing national and international experts in different medical systems to *Prashanti Kutiram* campus. In the invited talks section accomplished scientists and doctors will enlighten us on the recent advances in cancer treatment and basic science research in cancer. In poster and oral presentations we have tried to give exposure to novel concepts and research work not limited to Cancer but overall application and understanding of different non-stereotypical ideas. Panel discussion sessions is where experts from research, medical profession, policy makers and pharmaceutical industry partners will churn out direction for dissemination of wisdom to help the commoner.

On the whole we sincerely hope and wish this 22<sup>nd</sup> INCOFYRA will forge the integration intent stronger in the medical and research fraternity. Cost and cure will be better taken care by integrating the Best of the East with the Best of the West in Medical practice.

*With Love*

**Dr. H R Nagendra**

President, 22<sup>nd</sup> INCOFYRA

Senior Vice President, IYA

President, VYASA and Chancellor, S-VYASA



## **MESSAGE FROM THE CHAIR SCIENTIFIC COMMITTEE**

*Dear friends,*

I am privileged to present the Souvenir of the 22<sup>nd</sup> International conference on Frontiers in Yoga Research and applications which is being held from January 5-8, 2018 at Prashanti Kutiram, Bengaluru, India.



The theme of the conference is Integrative Oncology - The future of cancer care. As the incidence of Cancer is raising and the side-effects & limitations of modern medicine are becoming obvious, the world is looking at complimentary methods which can be integrated with the conventional medicine to provide cancer patients a better experience of disease management and long-term relief along with improved quality of life.

The present conference is an attempt to bring together the experts from the field of Oncology as well as AYUSH systems of medicine under one umbrella to initiate a dialogue to promote scientific research, develop customized treatment modules and to bring policy related changes to make this functionally integrated approach to be an acceptable line of treatment in the management of Cancer.

The conference would provide Plenary sessions in the morning which would bring in the best researchers and practitioners of Integrative Oncology to present the trends in cancer Care keeping the global perspective in mind. We will have three parallel symposia after the plenary to have experts from Oncology, AYUSH and Industry talk about latest findings and future directions in Cancer care.

We will have a poster presentation session and Oral prize paper presentation session on 6<sup>th</sup> and 7<sup>th</sup> respectively to give an opportunity for faculty and research scholars from various

institutions across India to present their research work.

We will have a grand round of panel discussion which would bring together practitioners, researchers, industry and policy makers on the same platform to suggest the way forward in the field of integrative oncology.

Beyond the above mentioned intellectual feast, do not miss the cultural extravaganza everyday in the evening starting from 5<sup>th</sup> of January till 7<sup>th</sup>. Plan yourself to participate in the campus tour including visit to Anvesana research laboratories specially organized for delegates and speakers.

Wish you a pleasant stay at Prashanti Kutiram and a memorable conference.

**Dr. N K Manjunath**

Joint Director of Research  
S-VYASA, Bengaluru

# S-VYASA Yoga University



The institution was formally registered as a research based charitable organization called Vivekananda Kendra Cikitsa Tatha Anusandhana Samiti [YOCTAS] in the year 1981 with the objective of scientifically evaluating the therapeutic benefits of yoga and its' applications. Following the path breaking work in evaluating the therapeutic use of yoga in the management of bronchial asthma in 1985, the Swami Vivekananda Yoga Research Foundation was recognized as a Scientific & Industrial Research Organization [SIRO] from the Department of Scientific & Industrial Research, Ministry of Science & Technology, Government of India in the year 1988. The scientific accomplishments thereafter and the disciplined education based on the science and philosophy of yoga resulted in receiving University affiliations leading to a doctoral level program in yoga & allied sciences under the Faculty of Science, Bangalore University, and subsequently getting the recognition as a Deemed-to-be University by the Ministry of Human Resource Development, Government of India, through the University Grants Commission in the year 2002. Currently, the parent organization, Vivekananda Yoga Anusandhana Samsthana (Research Foundation) [VYASA] sponsors the University, Swami Vivekananda Yoga Anusandhana Samsthana (Research Foundation) [S-VYASA]. S-VYASA has published more than 450 research papers in national and international journals. Also S-VYASA is equipped with a 250 bedded yoga therapy hospital. Recently Naturopathy and Ayurveda hospital was added to the holistic health home.

The Govt. of India, Ministry of Health & Family Welfare, Department of AYUSH has accorded the status of Center of Excellence in Yoga for S-VYASA. S-VYASA has been designated as Center of Excellence in yoga and the Research Department is designated at the ICMR Center for Advanced Research in Yoga and Neurophysiology (ICMR CAR Y & N). Recently, S-VYASA has got NAAC A+ accreditation.

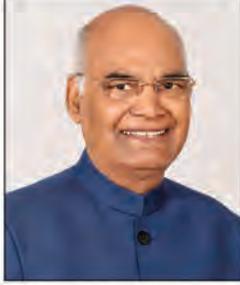




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*Messages*  
from Dignitaries





सत्यमेव जयते

राष्ट्रपति  
भारत गणतंत्र  
**PRESIDENT  
REPUBLIC OF INDIA**

**MESSAGE**

I am happy to learn that Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA), Bengaluru is organizing a four day International Conference with the theme "Integrative Oncology: The Future of Cancer Care". As Cancer has become a major health problem across the globe, I hope this conference will give new directions towards Cancer care.

I extend my greetings and felicitations to the organizers on this memorable occasion and convey my best wishes for future endeavours.

(Ram Nath Kovind)

New Delhi  
December 22, 2017



# मोरारजी देसाई राष्ट्रीय योग संस्थान

(भारत सरकार के आयुष मंत्रालय के अन्तर्गत स्वायत्तशासी संस्थान)

६८, अशोक रोड, गोल डाक खाना के समीप, नई दिल्ली - ११०००१

**MORARJI DESAI NATIONAL INSTITUTE OF YOGA**

(An Autonomous Organization under Ministry of AYUSH, Govt. of India)

68, Ashok Road, Near Gole Dak-khana, New Delhi - 110 001

Dated: 01<sup>st</sup> January, 2018

**Dr. Ishwar V. Basavaraddi**  
Director

## **MESSAGE**

I am very happy to know that Vivekananda Yoga Anusandhana Samasthana (VYASA) Bengaluru is organizing 22<sup>nd</sup> International Conference of Frontiers in Yoga Research and its Application (INCOFYRA) to be held on January 5-8, 2018 at Bengaluru, with the theme of Integrative Oncology: Future of Cancer care.

Cancer, currently is one of the most common non-communicable disease, a leading cause of adult mortality and morbidity worldwide. Leading risk factors includes use of tobacco, decreased physical activity, unhealthy diet etc. Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy (AYUSH) mode of therapies which integrates mind and body helps in the promotion of personal hygiene, health and quality of life of individual. Globally healthcare trends are changing with the focus now more on preventive and integrative care. This is essentially required in our country with its vast geographical and socio-cultural differences, where accessibility to health care is major challenge to the cancer patients. Organizing this conference on integrating AYUSH and modern medicine intend to provide a common platform for the experts of integrative healthcare, will give an opportunity to debate, discuss and change their dynamics of the role of research and patients care.

I hope this conference would provide valuable and informative ideas to the participating students, researchers and the respective field experts of AYUSH in integrating AYUSH with Modern Medicine. I convey my best wishes for the success of the conference.



*Ishwar V. Basavaraddi*  
Director 01/01/2018

२१ जून - अंतर्राष्ट्रीय योग दिवस

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Website: www.yogamdniy.nic.in

21 June - International Day of Yoga



केन्द्रीय योग एवं प्राकृतिक चिकित्सा अनुसंधान परिषद्  
(आयुष मंत्रालय, भारत सरकार)

**Central Council for Research in Yoga & Naturopathy**  
(Ministry of AYUSH, Govt. of India)

**डॉ. ईश्वर एन. आचार्य**

निदेशक

**Dr. Ishwara N. Acharya**

Director

F.No. 16-50/2016-17/CCRYN/Misc./RO (Y&N)

Dated: 3<sup>rd</sup> January, 2018

**MESSAGE**

Yoga an ancient Indian spiritual practice being practiced all over the world for wellness at all levels. United Nations General Assembly in its resolution recognised the holistic approach of Yoga to health and well-being, bringing harmony in all walks of life and thus, is known for disease prevention, health promotion and management of many lifestyle related disorders.

The increasing burden of cancer and high mortality rates for cancers in the country today may be probably attributed to rise in lifestyle-related non-communicable diseases and better detection of cancer. Although treatment modalities for detection and treatment of cancer are improving, the lack of awareness, accessibility to quality care, and affordability are hampering good outcomes. Quality of life (QOL) is a major concern of patients with cancer. Yoga as a mind-body intervention has been increasingly used in cancer patients. However, in the last decade, several large phase III studies on yoga and cancer have shown light on the beneficial effects and cost-effectiveness of these interventions. Integrating these interventions into cancer care for symptom mitigation and quality of life may also reduce duration of hospital stay and costs.

I am pleased to know that, Vivekananda Yoga Anusandhana Samsthana (VYASA), Bengaluru is organizing 22<sup>nd</sup> International Conference on Frontiers in Yoga Research and its Applications at Prashanthi Kuteeram, Bengaluru on 5-8 January, 2018 on the theme "Integrative Oncology: Future of Cancer Care". I am sure this International Conference will provide better opportunities to the experts of both Modern Medicine as well as AYUSH professionals, Academicians, Researchers, Students, and Therapists involved in Cancer Care and Policy makers and provide a new horizon for the future growth in the field of Oncology Care.

I wish the conference all success.

  
(Dr. Ishwara N. Acharya)

**Dr. H R Nagendra**

Padmashree Awardee

Chancellor, SVYASA University,

No.19, Ekanath Bhavan, Gavipuram Circle,

KG Nagar, Bangalore - 560019

जवाहर लाल नेहरू भारतीय चिकित्सा एवं होम्योपैथी अनुसंधान भवन, 61-65, संस्थागत क्षेत्र, डी-ब्लॉक के सामने, जनकपुरी, नई दिल्ली-110058  
Jawahar Lal Nehru Bhartiya Chikitsa & Homoeopathy Anusandhan Bhawan, 61-65, Institutional Area, Opp. D-Block, Janakpuri, New Delhi-110058

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**D. VEERENDRA HEGGADE**



**DHARMASTHALA - 574 216**  
**D. KANNADA, KARNATAKA**  
☎ : OFFICE : (08256) : 277121  
E-Mail : dvheggade@hotmail.com

Date:24-12-2017

**MESSAGE**

I am happy to note that you have planned to host 22<sup>nd</sup> INCOFYRA with the theme “ Integrative Oncology: Future of Cancer Care”.

It is befitting that International Scholars and Researchers will be the resource persons. Hope the delegates will get rich experience for their professional growth and to cure the disease cancer.

I am glad that you will publish a souvenir to commemorate this occasion. Hope it will be resourceful with Articles from experts.

I wish the publication all success and pray Lord Manjunatha Swamy to bless your efforts with great success.

Thank you.



**(D. VEERENDRA HEGGADE)**



# KAIVALYADHAMA

Where Yoga tradition and Science meet

*I am very happy to learn about the great effort made by Swami Vivekananda Yoga Anusandhana Samsthana (SVYASA), Bangalore in the field of Yoga, Especially the conference that is based on yoga Research, that has become so important. A conference in the direction dealing with “Integrative Oncology: Future of Cancer Care” is very promising. Much work is going on in this direction and yoga is contributing in this effort. I am sure the conference will bring new ideas fresh researches and promising results. SVYASA, Bangalore is specially to be thanked for effort made in this direction. I wish from the bottom of my heart a grand success to this event. May god bless this event fully.*



Omprakash Tiwari

## राष्ट्रीय प्राकृतिक चिकित्सा संस्थान

आयुष मंत्रालय, भारत सरकार

'बापू भवन', मातोश्री रमाबाई अंबेडकर रोड,

पुणे 411 001

दूरभाष : 020-26059682 / 3 / 4 / 5 फैक्स : 020-26059131

ई-मेल : ninpune@vsnl.com वेबसाईट : www.punenin.org



## NATIONAL INSTITUTE OF NATUROPATHY

Ministry of AYUSH, Govt. of India

'Bapu Bhavan', Matoshree Ramabai Ambedkar Road,

Pune 411 001

Phone: 020-26059682 / 3 / 4 / 5 Fax : 020-26059131

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### Message

In addition to causing severe physical and mental suffering to the individual, Cancer is having profound social and economic consequences for people in India, where nearly 1 million new cases of cancer are diagnosed every year in a population of 1.2 billion. This is an alarming state where all the stake holders of health should join hands together in fighting against this detrimental physiological disarray.

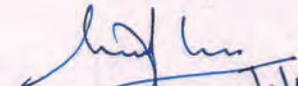
Managing cancer treatment is beyond drugs and radiation. It needs a careful dialogue between the body and mind, which makes the role of AYUSH systems in cancer management inevitable.

I am happy that VYASA Bengaluru is organizing a conference under the theme of "Integrative Oncology: Future of Cancer care" which I am sure will open new frontiers in cancer care. I also congratulate the organizers for bringing multiple perspectives on to the same platform in order to help alleviate the suffering of millions.

I wish the conference a great success.



Yours Naturally,

  
Prof. (Dr.) K. Satya Lakshmi, 1/11/18  
Director, NIN, Pune



अच्छे स्वास्थ्य के लिए निसर्गोपचार वार्ता पढ़ें / Read NISARGPCHAR VARTA for better health

**ಎಂ. ಕೃಷ್ಣಪ್ಪ**

ಶಾಸಕರು

ಬೆಂಗಳೂರು ದಕ್ಷಿಣ ವಿಧಾನಸಭಾ ಕ್ಷೇತ್ರ



ನಂ. 196, 24ನೇ ಕ್ರಾಸ್,  
16ನೇ ಮೈನ್, ಬನಶಂಕರಿ 2ನೇ ಹಂತ,  
ಬೆಂಗಳೂರು - 70.

ಫೋನ್ : 080-2671 2006 ಮೊಬೈಲ್ : 98440 14777 E-mail : mla.mkrishnappa@yahoo.com

ಸಂಖ್ಯೆ: ಶಾ/ಬೆಂ.ದ/ **AA5** / 2017-18

ದಿನಾಂಕ: 27-12-2017

ಡಾ|| ಎಚ್.ಆರ್.ನಾಗೇಂದ್ರ ರವರು,

ಅಧ್ಯಕ್ಷರು, 22ನೇ INCOFYRA

ಅಧ್ಯಕ್ಷರು, ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನ,  
ಕುಲಪತಿಗಳು, ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ವಿಶ್ವವಿದ್ಯಾಲಯ,  
ಬೆಂಗಳೂರು.

ಮಾನ್ಯರೇ,

ವಿಷಯ: ಕ್ಯಾನ್ಸರ್ ಮಾರಕ ಖಾಯಿಲೆಗೆ ಪರಿಹಾರಗಳನ್ನು ಕಂಡುಕೊಳ್ಳಲು  
ಆಯೋಜಿಸಿರುವ ಸಮ್ಮೇಳನಕ್ಕೆ ಶುಭ ಹಾರೈಕೆಗಳು.

\*\*\*\*

ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ ಯೋಗ ಅನುಸಂಧಾನ ಸಂಸ್ಥಾನದ ವತಿಯಿಂದ 2018ನೇ ಸಾಲಿನ ಜನವರಿ 5 ರಿಂದ  
8ನೇ ತಾರೀಖಿನವರೆಗೆ ಪ್ರಶಾಂತಿ ಕುಟೀರದಲ್ಲಿ 22ನೇ INCOFYRA ಹೆಸರಿನಲ್ಲಿ ಕ್ಯಾನ್ಸರ್ ಖಾಯಿಲೆಯ ಚಿಕಿತ್ಸೆಗೆ  
ಭವಿಷ್ಯದಲ್ಲಿ ಪರಿಹಾರೋಪಾಯಗಳನ್ನು ಕಂಡುಕೊಳ್ಳುವ ನಿಟ್ಟಿನಲ್ಲಿ ಸಮ್ಮೇಳನವನ್ನು ಆಯೋಜಿಸಿರುವುದು ಬಹಳ  
ಸಂತೋಷದ ವಿಷಯ. ಇದಕ್ಕಾಗಿ ಪ್ರಥಮವಾಗಿ ತಮಗೆ ಅಭಿನಂದನೆಗಳನ್ನು ಸಲ್ಲಿಸುತ್ತಿದ್ದೇನೆ.

ಕ್ಯಾನ್ಸರ್ ಖಾಯಿಲೆಯು ಇಂದು ವಿಶ್ವವನ್ನು ಕಾಡುತ್ತಿರುವ ಮಹಾನ್ ಮಾರಕ ಖಾಯಿಲೆಯಾಗಿದೆ. ಇಂತಹ  
ಮಾರಕ ಖಾಯಿಲೆಯನ್ನು ನಿಯಂತ್ರಿಸಲು ಹಾಗೂ ಭಾದಿತರನ್ನು ಗುಣಮುಖರನ್ನಾಗಿ ಮಾಡುವ ನಿಟ್ಟಿನಲ್ಲಿ  
ಆಯುರ್ವೇದ, ನ್ಯಾಚುರೋಪತಿ, ಯೋಗ, ಯುನಾನಿ, ಸಿದ್ಧ, ಹೋಮಿಯೋಪತಿ ಮತ್ತು ಆಧುನಿಕ ಔಷಧಿ  
ಪದ್ಧತಿಗಳನ್ನು ಸಮ್ಮಿಳಿತಗೊಳಿಸುವ ಸಲುವಾಗಿ ಈ ಎಲ್ಲಾ ವಲಯಗಳ ಪ್ರಮುಖ ಸಂಶೋಧಕರು ಮತ್ತು ವೈದ್ಯರುಗಳನ್ನು  
ಒಂದೇ ವೇದಿಕೆಯಡಿ ಸೇರಿಸುತ್ತಿರುವುದು ಅತ್ಯಂತ ಪ್ರಶಂಸಾರ್ಹವಾಗಿದೆ ಮತ್ತು ಈ ಸಮ್ಮೇಳನದ ಪರಿಣಾಮವಾಗಿ  
ಕ್ಯಾನ್ಸರ್ ಖಾಯಿಲೆಯನ್ನು ಹೋಗಲಾಡಿಸುವಲ್ಲಿ ಕ್ರಾಂತಿಕಾರಕ ಬದಲಾವಣೆಯಾಗಿ, ಸಮಾಜಕ್ಕೆ ಉತ್ತಮ ಕೊಡುಗೆ  
ಸಿಗಬಹುದೆಂದು ನಾನು ಭರವಸೆ ಹೊಂದಿದ್ದೇನೆ.

22ನೇ INCOFYRA ಸಮ್ಮೇಳನವು ಅಭೂತಪೂರ್ವ ಯಶಸ್ಸು ಕಾಣಲಿ ಎಂದು ಈ ಸಂದರ್ಭದಲ್ಲಿ  
ಹೊರತರುತ್ತಿರುವ ಸ್ಮರಣ ಸಂಚಿಕೆಗೆ ಶುಭಾಷಯಗಳನ್ನು ಕೋರುತ್ತೇನೆ.

ವಂದನೆಗಳೊಂದಿಗೆ,



ತಮ್ಮ ವಿಶ್ವಾಸಿ,

**M. Krishnappa**

(ಎಂ. ಕೃಷ್ಣಪ್ಪ)





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# *Abstracts*

Keynote Addresses

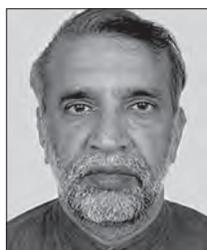


## Plenary

### Chairpersons



**Dr. K S Gopinath**  
Chairman  
HCG, Bengaluru



**Dr. Dharshan Shankar**  
Vice Chancellor  
Institute for Trans-Disciplinary Health Sciences  
Bengaluru



**Dr. Rajesh Kotecha**  
Secretary, Ministry of AYUSH  
New Delhi



## INTEGRATIVE ONCOLOGY: FUTURE OF CANCER CARE



**Dr. H R Nagendra**

Chancellor, S-VYASA, Bengaluru  
hrnagendra1943@gmail.com

Dr H R Nagendra holds PhD in Mechanical Engineering from IISc, Bengaluru. After receiving his doctorate in 1968, he served as faculty of IISc in Department of Mechanical Engineering. Then, he went to Canada as Post-Doctoral Research Fellow in the University of British Columbia, Canada in 1970. From there, he moved to NASA Marshall Space Flight Centre, USA as Post-Doctoral Research Associate in 1971 and moved to Engineering Science Laboratory, Harvard University, USA as a Consultant in 1972. He served as Visiting Staff at Imperial College of Science and Technology, London later. In 1975, he joined Vivekananda Kendra, a service mission as a whole-time worker. He was Director of Training Centre, Vivekanandapuram, Kanyakumari. Between 1975 and 1993, he served as the All India Secretary, Yoga Shiksha Vibhag, Vivekanand Kendra, Kanyakumari. He is the founder and President of Vivekananda Yoga Anusandhana Samsthana, Bengaluru.

Currently, he is the Chancellor of Swami Vivekananda Yoga Anusandhana Samsthana, a Yoga University in Bengaluru. He is also Chairman of Task force of AYUSH, Govt, of India, New Delhi. He has published 30 Research Papers in Engineering and more than 120 research papers on Yoga. He has authored and coauthored 40 books on Yoga. He has received several awards for his life time achievement in the field of yoga including Padmashree by govt. of India.

Cancer is one of the leading causes of death worldwide, with an incidence of 14 million new cases per year, with about 1 million diagnosed in India. The prevalence of cancer has increased over the past decade and is expected to rise by 8% in the next 5 years. Regular screening, early detection, and improved therapies have increased the 10-year survival from 61% to 77% in the past decade. However, advancements in cancer treatment have not changed mortality rates.

While cancer prevention is being debated and developed in many health-care facilities, there is no doubt a strong component is in following some basic lifestyle modifications. Cancer cells are not powerful invaders as viruses from outside. They are born in our own bodies, say a thousand in a billion cells which are created every day in our bodies. However, our immune system takes care of them recognizing them as enemies as it does with outside germs. It is well known that stress is an immune suppression factor and highly stressed lifestyle can bring confusion in the immune system to recognize cancer as an enemy. On the contrary,



it thinks that they are good friends and does not destroy them. This aspect is known as Viparyaya, a state of mind in which reality is perceived wrongly (an example of perceiving a rope as snake or a post as ghost). Unless this Viparyaya is corrected, the root cause of cancer will not be vanquished. This is possible by de-stressing mind-body through the practice of relaxation techniques such as asanas, breath slowing Pranayama, and mind-calming meditation methods. Furthermore, proper diet, exercise, avoiding smoking, use of tobacco in various forms, psychedelic drug addictions, and uncontrolled consumption of alcohol surely will help in the prevention of cancer. This is where the role of Yoga practices take importance. It is said in the Gita that he who eats sparingly, who sleeps just adequately and who is skillful in action, for such a person Yoga becomes a “killer of duhkha (distress or misery)” (Bhagavad Gita 6:17). A positive attitude in work arena and to act stress-free is an important factor in maintaining high level of immunity. We know, for example, many students report sick during examination time. This is because of the stress that is experienced by them and their inappropriate response to stress.

Addressing the root cause and using holistic healing methods along with conventional methods would be the best solution for cancer prevention and management. Along with yoga, other Indian systems of medicines have also shown beneficial effects in cancer care. Hence there is a need for Integrating AYUSH in Palliative Care.



## YOGA AND PREVENTIVE ONCOLOGY: AN EXPLORATION OF THE MECHANISMS



**Dr. Shirley Telles**

Director, Patanjali Research Foundation, Haridwar, India  
shirleytelles@gmail.com

Dr Shirley Telles has a degree in conventional medicine (MBBS) after which she completed a MPhil and PhD in Neurophysiology at the National Institute of Mental of Mental Health and Neurosciences, Bengaluru, India. After her doctorate she joined the Swami Vivekananda Research Foundation in Bengaluru and had the unique post- doctoral experience of setting up the laboratories there before starting research. Dr. Telles received a Fulbright fellowship in 1998 to assess fMRI in meditators, at the department of radiology, University of Florida. Gainesville, FL. Later Dr. Telles was awarded an Indian Council of Medical Research Center for Advanced Research to assess the effects of meditation through autonomic and respiratory variables, evoked and event related potentials, polysomnography and fMRI. This was followed by a grant from the DST to study attention in meditators using high density EEG and event related potentials during fMRI. From 2007 Dr. Telles has been the Director of a research foundation committed to researching the effects of Yoga and Ayurveda (Patanjali Research Foundation, Haridwar, India). Dr. Telles has 176 journal publications for most of which she is the first and main author. Dr. Telles has been invited to talk on yoga and ayurveda and their applications in health and treatment across India and in various continents and countries including Australia, Brazil, Canada, China, Germany, Hong Kong, Norway, Portugal, Serbia, the U.K. and the U.S. Dr. Telles is an enthusiastic practitioner of yoga herself and believes that yoga can positively impact all aspects of life.

A survey conducted in India demonstrated that unlike yoga practitioners in the U.S. or in Australia, those in India were likely to be younger with comparable numbers of both sexes; however, like their counterparts elsewhere they most often took to yoga to optimize health and wellbeing. Adopting a healthy lifestyle early on in life can possibly prevent the onset of several chronic diseases. Among them is cancer. Several factors play a role in the onset of cancer. Increasing importance is being given to inflammation. While acute inflammation is healing and beneficial, chronic inflammation has the opposite effect. Chronic inflammation triggers NF-kappa-B (NFkB), the protein complex which influences DNA transcription among other functions. NFkB activates a pathway resulting in the expression of pro-inflammatory genes such as cytokines, adhesions molecules and other chemicals. At this stage there is certain evidence that yoga and positive changes in one's lifestyle can reverse this process. In South Asia, which of course includes India, the problem is made more complex by the genetic predisposition to collect weight around the waist; the by now well known abdominal or central



## 22<sup>nd</sup> INCOFYRA

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adiposity. Central adiposity consists of subcutaneous adipose tissue and visceral adipose tissue. Visceral adipose tissue is considered more damaging to health as it can compromise the functions of the viscera, but even more important can secrete pro-inflammatory chemicals which cause and sustain chronic inflammation. From 2010 Patanjali Research Foundation has been examining a possible role of yoga in reducing abdominal obesity. After a nationwide program was launched in 2016 to contain central obesity through yoga, an attempt has been made to understand the effects of yoga and a plant-based diet on the two types of abdominal adipose tissue. These effects can be considered useful in preventing a range of chronic non-communicable disorders including cancers. The results of the ongoing project will be presented.

**Key words:** Preventive Oncology, Chronic inflammation NF $\kappa$ B, Central adiposity



## INTEGRATING YOGA INTO CANCER CARE: SCOPE, CHALLENGES AND PRESENT EVIDENCE SUMMARY



### **Dr. Nagarathna Raghuram**

Medical Director, Arogyadhama, VYASA, Bengaluru  
rnagaratna@gmail.com

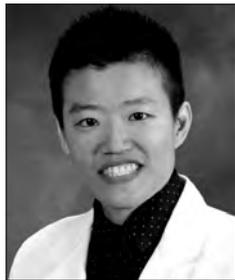
Dr. R. Nagarathna is one of the pioneers in the field of Yoga therapy. She is the Dean, Division of yoga and life sciences and chief consultant at Arogyadhama, SVYASA. Dr Nagarathna did her MBBS from Bengaluru medical college, MD in internal medicine from Mysore medical college, Her MRCP and FRCP from Edinburg, UK. She has over 80 publications in national and international journals and has 11 books on series of yoga for different ailments published. She has been felicitated with numerous awards such as the: Patanjali Award” (2000) for contributions in the field of yoga by Indian Systems of Medicine and homoeopathy (ISM & H), Ministry of health and family welfare, Government of India, arranged through Director, ISM& H in Bengaluru. “Dr P S Shankar Vaidya Shree” award (2001) by Dr P S Shankar Pratistana, Gulbarga. “Woman of Excellence” award (2003) by the Badaganadu Sangha Association, Bengaluru, for service to humanity through Yoga Therapy. “Karnataka Kalpavalli” award (1995) for ‘Service to women through Yoga’ awarded by ‘Shaswathi’ a women’s organization, NMKRV College, Bengaluru. “Doctor’s Day” award (July 1992) by IMA, Bengaluru branch.

Yoga is now known beyond doubt regarding its therapeutic benefits. The burgeoning field of mind-body research and contemplative practices in medicine, of which yoga from the Indian tradition is prominent, is beginning to show that the contribution of these practices to health and wellbeing go well beyond the simple “relaxation response” and enables the body to shift towards homeostasis. Yoga when practiced in a comprehensive manner including asana, pranayama, meditation and diet will have profound effects on all aspects of life. In fact, lifestyle factors are increasingly being recognized for their role in most non-communicable diseases such as cancer, cardiovascular disease, diabetes, and respiratory diseases. The science of yoga has expanded vastly in the past few decades with the benefits of yoga being documented through the use of rigorous research across multiple medical conditions and to preserve optimal health.

Yoga, a mind-body practice, when approached as a way of life, can have a profound impact on people with cancer. The state-of-science of yoga for people with cancer will be reviewed with an emphasis on past and ongoing research. Yoga plays an important role for cancer patients and caregivers alike to help improve aspects of quality of life and possibly even clinical outcomes.



## THE INFLUENCE OF YOGA ON MEDIATIONAL RELATIONSHIPS BETWEEN SLEEP AND CANCER-RELATED FATIGUE: A URCC NCORP RCT IN 321 CANCER PATIENTS



**Po-Ju Lin**, Ian Kleckner, Calvin Cole, Michelle Christine Janelins, Luke Joseph Peppone, Anita Roselyn Peoples, Eva Culakova, Charles E. Heckler, Rakesh Gaur, Jeffrey K. Giguere, Michael J. Messino, Janet C. Ruzich, Karen Michelle Mustian  
Postdoctoral Associate, Department of Surgery-Cancer Control, University of Rochester Medical Center, USA

Dr. Po-Ju Lin is a postdoctoral associate at Wilmot Cancer Institute, University of Rochester Medical Center. She received her doctoral degree in Exercise Physiology and master degree in Human Nutrition at University of Michigan. She is an ACSM certified clinical exercise physiologist and a registered dietitian. In 2016, she joined URMCC PEAK Human Performance Clinical Research Laboratory and works with Dr. Karen Mustian on nationwide, multi-center, randomized clinical trials using yoga intervention to manage cancer-related toxicities in cancer patients. Her work was featured as a major podium presentation at 2017 ASCO meeting and recognized with several best clinical research awards.

**Background:** Cancer-related fatigue (CRF) is one of the most incapacitating adverse effects of cancer and its treatments. CRF co-occurs with impaired sleep quality in cancer survivors, increasing morbidity and mortality. We have previously shown that yoga significantly lowers CRF and improves sleep quality in survivors. However, it is not clear if the effect of yoga on CRF is mediated by improvements in sleep quality. This study assessed the mediating effects of changes in sleep quality stemming from YOCAS<sup>®</sup> yoga on improvements in CRF.

**Methods:** We conducted a secondary analysis on data collected from a multicenter phase III randomized controlled clinical trial with 2 arms (standard care and standard care + a 4-week YOCAS<sup>®</sup> yoga intervention). 321 cancer patients (96% female; mean age, 54 years; 77% had breast cancer) reported both sleep quality, measured by the Pittsburgh Sleep Quality Index (PSQI), and CRF, evaluated by Multidimensional Fatigue Scale Inventory (MFSI). Causal mediation analyses were used to estimate effects of the changes in global PSQI scores and in each PSQI subscale on the relationship between yoga and CRF.

**Results:** Yoga significantly improved both CRF ( $p < 0.01$ ) and sleep quality ( $p < 0.01$ ), compared to standard care, with total reduction in CRF by 6.5 points. Sleep quality significantly mediated the changes in CRF by 1.4 points ( $p < 0.01$ ) in addition to the direct effect of yoga on CRF reduction (by 5.1 points;  $p < 0.01$ ), suggesting that 22% (95% CI: 7%-54%) of the reduction in CRF was mediated through improving sleep quality. Among the PSQI subscales,



daytime dysfunction had the most mediating effect of yoga on CRF. In this model, yoga directly improved CRF by 4.1 points ( $p=0.01$ ) and the mediating effect of yoga on CRF via daytime dysfunction was 2.4 points ( $p<0.01$ ), suggesting that 37% (95% CI: 23%-81%) of the improvements in CRF was mediated through decreasing daytime dysfunction.

**Conclusions:** Between 22 and 37% of the improvements in CRF from yoga are due to improvements in sleep quality and reductions in daytime dysfunction. Clinicians should consider prescribing yoga for survivors experiencing CRF in combination with sleep disorders. Funding: NCI UGCA189961, R25 CA102618.



## GENOME AND BIGDATA DRIVEN SCIENTIFIC MECHANISMS OF MEDITATION IN CHRONIC DISEASES



**Dr. Manoj K. Bhasin**

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mbhasin@bidmc.harvard.edu

Dr. Bhasin is an Assistant Professor of Medicine at Harvard Medical School (HMS) and Director of Bioinformatics and Systems Biology at Beth Israel Deaconess Medical Center (BIDMC) (Boston, MA, USA).

He is also a co-Director of BIDMC, Genomics, Proteomics, Bioinformatics and Systems Biology Center and Senior Investigator at HMS Vascular Biology Center. He is also Associate Senior investigator at Benson-Henry institute for Mind Body Medicine in Boston. Dr. Bhasin is an experienced genome and systems Biology investigator with a strong track record in computational vaccine design, functional genomics, proteomics and systems biology with over 90 scientific publications, multiple patents and copyrighted softwares. He is leading development of computational approaches for systems level integrative analysis of imaging, clinical and multidimensional genome level data to identify key features driving the disease. He is an emerging leader in personalized genomics for molecular diagnosis and individualized treatment of cancer patients. His lab developed a comprehensive platform for detecting mutations associated with cancer that pave the way toward development of personalized medicine. He has published >100 scientific papers and have 7 provisional patents to his credit.

Genomics techniques are increasingly being used to understand the mechanism of mind-body medicine practices and integrative medicine more broadly. Our group has implemented genomics, epigenomics and systems biology approaches in diverse healthy and diseased populations, and identified NF-kB—a key immune system regulator—and its upstream and downstream pathways as central in the response to mind-body approaches. Our group has also used the power of BigData and Genomics to develop evidence based next-generation Ayurveda formulation for management of multiple diseases. In this talk, I will discuss the power of Genomics and systems-biology approaches, which allow the investigation of gene networks, to reveal underlying pathways involved in the mechanism of mind-body approaches. We will present findings on genome and epigenome in response to mind-body interventions, which elicit the relaxation response (RR) in both healthy adults and in patients with hypertension, irritable bowel syndrome (IBS) inflammatory bowel disease (IBD) and multiple cancers.



**Dr. Brindha Sitaram**

Consultant Psychooncology, HCG and Director COPER

The diagnosis treatment of cancer poses serious psychological threats to the patients and their family members. The social stigma attached to the disease, the treatment related side effects, the financial burden all contribute towards increasing distress in cancer patients. Findings from our multiinstitutional study show distress in the range of ... to ... in cancer patients undergoing cancer directed treatment in India. Its not just important to treat distress for improving ones quality of life, numerous studies have shown that this impending distress and inability to cope with diagnosis and treatment impairs anticancer immunity. This study of brain-behaviour and immune axes is called psychoneuroimmunology. Our studies have shown that cancer patients who are depressed and cope with diagnosis with helplessness and hopelessness have depressed immune functioning in terms of low NK cell counts and activity. This psychoneuimmune modulation offers scope for use of mind body interventions such as yoga. The integrative oncology department has been integrating psychooncology, yoga, physiotherapy, nutrition, and other therapies as a part of the HCG Life Program.



# 22<sup>nd</sup> INCOFYRA

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# *Abstracts*

Invited Talks



## **Symposia:** Integrating AYUSH in Cancer Care: Scope & Challenges

### Chairpersons



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## INTEGRATING AYUSH IN CANCER CARE SCOPE AND CHALLENGES



### **Raghavendra Rao M**

Senior Scientist, Clinical Research and Head CAM Program  
Health Care Global Enterprises Ltd

Dr Raghavendra Rao was born in 16<sup>th</sup> July 1975 did his early education in Bengaluru and completed his BNYS with second rank from SDM College of Naturopathy and Yogic Sciences under Mangalore University. He passed out from 5<sup>th</sup> batch to pursue his passion for research and joined S-VYASA in fall of 1998. His area of focus has been Yoga and psychoneuroimmunology and has been working primarily with Cancer patients since 1998. He has completed several research projects in Rheumatoid arthritis, Prediabetes, Diabetes, CVD risk prevention using both yoga and naturopathy interventions. He was a collaborator and Osher PICRC fellow at UCSF School of medicine, Sanfrancisco from 2004-2006. He completed Indo US study on yoga and Prediabetes, and yoga and HIV with UCSF School of Medicine Sanfrancisco. He completed his PhD in 2007 and joined Health Care Global enterprises Ltd., South East Asias Largest Network of Oncology Hospitals as a Senior Scientist. He has 21 international research publications and one international book chapter. He has won several awards such as Sushila thakur prakriti mandir prize in 2001 by APPICON, Manonmani Rudraiah award from S-VYASA for best thesis and ASCO Conquer cancer foundation award in 2012 by American Society of Clinical Oncology. He has set up a Department of CAM at Health Care Global Enterprises which is accredited by European Society for Integrative Oncology (ESMO) for Integrative Oncology. He has collaborated with University of Texas and is a member of consortium of Vegetable and Fruit Improvement Center that validates beneficial effects of fruits and vegetables for health. He is a recognized PhD guide for Yoga, Clinical nutrition and Nutraceuticals. He has also started a Cancer registry at HCG and is involved NCI sponsored phase III trial on Yoga for Breast Cancer. His vision is to develop a center for excellence in Mind Body Medicine. He is presently into advanced research using FMRI for Chemo brain and Gene expression studies in a lifestyle intervention trial for early prostate cancer. He is presently an Expert member on AYUSH Research Portal, Govt of India.

We see an increasing burden of cancer in the country today probably attributed to rise in lifestyle-related noncommunicable diseases and better detection of cancer. Coupled with this increasing burden are also high mortality rates (~50%) for cancers in the country. Although treatment modalities for detection and treatment of cancer are improving, the lack of awareness, accessibility to quality care, and affordability are hampering good outcomes. Majority of the cancer centers are located in urban cities with people having to travel long distances and be away from work indirectly increasing the cost of care. Although government



schemes have helped offer subsidized care to the people, the survivorship and care continuity are nonexistent with people not having access to care in their towns and villages following first line of treatment. As a result, studies have shown that more than 90% of patients die at their homes without any access to palliative care. Only 0.4% of the cancer patients have any access to palliative care in the country. The cost of cancer care in the country though low in comparison to west is still beyond the reach of common man. A large percentage of population afflicted with cancer are thrust into poverty with people selling off homes, land for their treatment, people being incapacitated from work with loss of earnings due to long treatment schedules, and treatment-related morbidity. It is therefore important to explore local healing traditions and mind-body interventions such as in AYUSH systems of medicine Ayurveda, Yoga and Naturopathy, Unani Siddha, and Homeopathy to reduce treatment-related morbidity, improve quality of life, and identify any novel plant-derived drug targets against cancer.

Cancer care has been under the purview of conventional medicine in the country and AYUSH interventions exist only as a last resort or are sought for symptom mitigation. However, many patients take recourse to these therapies both as a first line and in their survivorship period with an intent to reduce side effects of conventional treatment and improve anticancer immunity. Whether these interventions are beneficial or not is a question that needs to be answered through systematic research. AYUSH doctors can play a vital role in preventive, rehabilitative and palliative care. Using evidence based AYUSH approaches has a lot of scope in Oncology. However challenges remain with respect to its efficacy, and integration. This paper will look at the areas of scope, challenges and potential areas of integration in Oncology.



## SIDDHA MEDICINE IN INTEGRATIVE *PUTRU-NOI* (CANCER) CARE IN INDIAN SCENARIO



### **Dr. Arul Amuthan**

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Working as Team Leader in Division of Siddha, Center for Integrative Medicine and Research (CIMR), Manipal University and as Team Leader in Division of Siddha, Center for Integrative Medicine and Research (CIMR), Manipal University. He holds BSMS, MD (Siddha Medicine), MSc .Medical Pharmacology, and PhD in drug discovery He is a recipient of Academic excellence award from Jawaharlal Nehru Memorial Fund, India and having 28 research publications and one patent filed. Associate Editor for International Journal of Pharmacology and Clinical Sciences and Manipal Journal of Holistic Health, and Freelance copyeditor of Manipal University. Key note speakers in many National and International events on Traditional and Integrative Medicine including USA, China, Korea, and Sri Lanka. He is the Doctoral Advisory Committee of Manipal University as well as PhD examiner for Siddha Medicine. He is having grants to develop pharmacopeial monograph for herbals from Pharmacopoeia and having grants to develop pharmacopeial monograph for herbals from Pharmacopoeia.

**Background:** Traditional Siddha Medical literature describe cancer as 'putru noi', which means the disease of growth like Termite Mound. It grows irregular, spreads to distant area by underground channels and the termite maintains a microenvironment for its survival. The cancer of particular organ is named based on the organ itself, for example *naakku putru* (*naakku* - tongue) is the terminology for tongue cancer. We are doing preclinical studies and integrating Siddha therapy for cancer patients.

**Treating cancer patients:** To prepare cancer patient for Siddha anticancer treatment, either *Siddhathi ennai* or *agastyar kuzhampu* is given upto 3 days to activate healing pathways. Siddha chemotherapy (Class I and II) - to destroy cancer cells and prevent metastasis (Eg: *thamirakattu chendooram*). Our studies showed that these drugs (*thamirakattu chendooram*) induce apoptosis by intrinsic pathway. Also, in EAC mice model, they increased mean life span by 97.56%. Few herbal drugs are used as adjuvant to chemo/radio therapy (Class III) as nutritional support and immunomodulatory (Eg: *Amukkara legium*).

**To allay the adverse effects of chemo/radiotherapy (Class IV):** These herbals have potential to prevent cell damage, regenerate cells and heal tissue damages. Thus, these are used to reverse the chemotherapy induced toxicities. *Vernonia cinerea* is used to regenerate the renal cells and intestinal mucosal villi against cisplatin and 5FU induced damages.

**Cancer prevention by Siddha *kaayakalpa* therapy:** *Kaayakalpa* therapy (including yoga) is the special area to prevent cancers. This is also advised to cancer survivors for prolonged healthy life.



## SIGNIFICANCE AND SCOPE OF HOMEOPATHIC SYSTEM OF MEDICINE IN CANCER CARE AND PREVENTION



### **Nadoja Dr. B.T. Rudresh**

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Nadoja Dr. B.T. Rudresh is an exceptional visionary leader in the field of homeopathic medicine. He has become synonymous with homeopathy in Karnataka. He has played a multitude of roles as a homeopathic practitioner, teacher, counsellor, author of popular books, documentary film maker, columnist, popular television personality, a social scientist and above all a crusader for social justice not just in homeopathic domain, but life in general. He is a recipient of the prestigious Nadoja award, Hampi University, Karnataka. Hahnemann Gold Medal, Rajyotsava & Kempegowda Award, Kuvempu University. Lifetime achievement Best Teacher award Rajiv Gandhi University of Health Sciences (2011). Dr. Anupama Niranjana medical Literature award from Kannada Pustaka Pradhikara (2016). Best Vaidya Sahithya award from Dr.P.S. Shankara Prathistana (2010). He is the President, Karnataka Board of Homoeopathy System of Medicine. Member, Central Council of Homoeopathy, New Delhi. Member of Faculty, Rajiv Gandhi University of Health Sciences. Former Member of Senate and Syndicate, Rajiv Gandhi University of Health Science. Former Member of Knowledge Commission GoK.

The fundamental cause of diseases as identified in homeopathy are 'Psora' (Mental aberrations), 'Sycosis' (Unwanted proliferation of the cells) and 'Syphilis' (Degeneration of the affected tissues). Cancer has a cause identified as 'Khova' (a cream) of all these three fundamental causes. A cancerous growth takes years to develop. These growths have an effect on a normal body in terms of certain functional changes. These functional changes come in the form of signs and symptoms which are classified as purposeless, progressive and painful proliferations of the tissues. Homeopathy, in truth, goes to a level before the biopsy confirmation report and treats a person potentially threatened by cancerous growth through his preclinical subjective signs and symptoms. The pulse, hence, here is regarding the functional changes. If treated at the functional stages, as homeopathy does by its methods, the problem can be tackled and nipped in the bud. Thus, identifying the potential individuals at the level of functional changes, long before the tissue proliferations occur is the key to curing a potential threat of cancer. Going through the homeopathic approach, the biopsy report would merely amount to a re-confirmation exercise and one does not have to even wait for the same before he is in of the clutches of cancer. A medicine made from the cancer-causing cell itself has been used to prevent not only cancer but the hereditary cancerous diathesis in homeopathy. The other medicines authorized are 'Cholestrinum' in liver cancer; 'Benzinum' for blood cancer, 'Symphytum' in bone cancer, 'Ruta' in rectal cancer, 'Conium' in prostate cancer, Hoang Nan' in lymph gland cancer, 'Asteria Rub' in breast cancer. To relieve the pains of cancer a homeopath generally uses 'Aresenic Alb' and 'Euphorbium'. Varied range of cancer like breast cancer, bone cancer, blood cancer (leukaemia), brain tumour, cancer of the parts of the digestive system, starting from the tongue and its supplementary organs including the rectum, uterine fibroids, all these and many more come under the preview of the homeopathic systems.



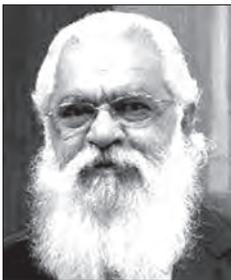
# Symposia:

## Insights in to Therapeutic Effects of Yoga in Cancer

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### Chairpersons

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**Dr. Rajesh K Grover**  
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**Dr. B N Gangadhar**  
Director, NIMHANS  
Bengaluru



## SUDARSHAN KRIYA YOGA (SKY): AN ADJUNCT TO CANCER MANAGEMENT



### **Dr. Vinoda Kochupillai**

Research Director, Art of Living Foundation, Bengaluru  
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Dr. Vinod Kochupillai, MBBS, FRCP, FAMS superannuated as Head of Cancer Centre and Professor and Head of Medical Oncology at AIIMS after 32 years of service. She subsequently worked as Medical Director at SRM medical college and hospital at Kattankulathur, Kancheepuram District at Chennai and she is currently working as Director at Sri Sri Institute of

Advanced Research (SSIAR) at Ved Vignan Maha Vidya Peeth (VVMVP) at Bengaluru. She has published 185 research papers in national and international journals and has guided more than 40 DM, MD and PhD students at AIIMS and SRM medical college, Chennai. Her research at AIIMS primarily involved research related to cancer; currently at SSIAR, VVMVP, she is studying the effect of spiritual practices on body and mind. Dr. Vinod Kochupillai is a recipient of several national and international awards including Dr BC Roy award in the category of eminent medical teacher.

Stress associated with diagnosis and treatment of cancer, affects not only quality of life but leads also to poorer prognosis and shorter survival. Adverse effects of stress on prognosis occur through following mechanisms: 1. Suppression of natural killer (NK) cells and their cytotoxicity. 2. Poorer repair of damaged DNA. 3. Modulation of apoptosis and 4. Oxidative stress: aggravated by psychological stress.

NK cell activity increases by relaxation methods. Patients with malignant melanoma (Skin cancer), who underwent relaxation program for 6 weeks had significant increase in the percentage of NK cells, as well as increase in NK cell cytotoxicity, as also lower rates of recurrence and death. Similarly supportive group relaxation methods led to longer survival and better quality of life among women with advanced breast cancer.

Yoga, meditation and pranayama are centuries old processes; known to relax mind and energize the body. Sudarshan Kriya Yoga (SKY), a rhythmic breathing process, introduced by Sri Sri Ravishankar ji, is known to eliminate stress, anxiety and depression and increase enthusiasm.

Fall in blood lactate, increase in glutathione, superoxide Dismutase (SOD) and catalase and increase in natural killer (NK) cells indicate relaxation, better antioxidant and better immune effects of SKY in normal individuals and those with cancer. Further confirmation of better antioxidant defence was available through studies conducted using reverse transcriptase - polymerase chain reaction (RT-PCR), at AIIMS. This was accompanied by better stress regulation and better immune status due to prolonged life span of lymphocytes by up regulation of antiapoptotic genes and pro survival genes. Qu et al observed rapid and significantly greater effect of SKY on gene expression in peripheral blood mononuclear cells (PBMNs). Other positive effects of SKY included reduction in tobacco addiction and reduction in side effects of chemotherapy. Hence, SKY appears useful adjunct to cancer management.



## INCORPORATION OF INTEGRATIVE YOGA PROGRAM IN CANCER MANAGEMENT AT A CANCER INSTITUTE: INITIAL REPORT



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He is an Assistant Professor at Department of Radiation Oncology, Kidwai Memorial Institute of Oncology, Bengaluru, Karnataka, India-560030. Holds MBBS degree from Vijayanagara Institute of Medical Science, Bellary, Karnataka, (2002-2008), MD from Radiation Oncology, Institute of Medical Science, Banaras Hindu University, India (2009-2012) and DNB from Diplomate national board, Delhi India-2013 and Senior Residency-MedantaMedicity- Gurgaon, Haryana India. (2012-2014). Recipient of 10 national and international award, presented 100 presentations (National and international), has over 50 publications and has authored 2 books and 5 chapters. He is the Principal Investigator of 10 ongoing projects 2 of which come under Ministry of AYUSH, Govt of India. Experienced in Alternative care in oncology, Yoga in cancer, Immunity in cancer, External Beam Radiation, Cyber knife-Skull tracking, spine tracking, fiducial tracking, LOT (Lung tracking) and In tempo technique, Electron therapy- Total skin and electron boost, Intracavitary Brachytherapy (HDR and LDR) and Intra Luminal Brachytherapy. Dr Khaleel I A, Dr Linge Gowda KB, Dr Noopur N, Dr Premakumari. Manisha R, Ramesh C

**Purpose:** Integrative yoga program is beneficial in cancer management when delivered simultaneously with conventional treatment, by a collaborative team. Development of a specific yoga program, projecting the challenges during development, execution and result analysis is essential.

**Materials and Methods:** 150 cancer patients (80 - cervical cancer, 20 - Pediatric, 20 - CNS and 30 miscellaneous) were prospectively recruited into yoga program formulated at Kidwai Cancer Institute. Patients were given yoga therapy for 1 hour 6 days /week during chemo- radiation or radiation alone. A personal interview was conducted at baseline and once every week with ethically approved psychoanalytic questionnaires and NK cell/Immunoglobulin/ TFT/HB/ TLC/Platelet were assessed. Problems encountered during recruitment, training and adherence were listed. Measures to resolve were derived and adopted thereafter.

**Result:** Among **cervical cancer** cases, Quality of life ( $P=0.007$ ), Fatigue ( $P=0.033$ ), Anxiety ( $P = 0.0465$ ) and Stress ( $P = 0.45$ ) achieved good significance. In **Pediatric cases** (9 - brain tumors, 8- AML, 3 - miscellaneous) CHQpf-50 analyzed at baseline and discharge achieved Physical functioning ( $p-0.046$ ), General health ( $p-0.36$ ), behavior and Mental health ( $>0.05$ ). Among **CNS Tumor cases**, QOL (0.042), cognition and mental function (0.062). Fatigue, anxiety and depression showed considerable reduction but stress remained high.

**Conclusion:** Integration of Yoga therapy with conventional management aid timely completion of treatment. The challenges experienced were overcome with effective measures. Outcome data is under progress and will be published soon.

**Acknowledgement:** Sponsored by Ministry of AYUSH, Government of India



## PSYCHO-NEURO-IMMUNOLOGICAL EVIDENCE FOR YOGA IN ONCOLOGY



**Dr. Amrit Anshu Ram**  
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Dr Amrit Anshu Ram has been a yoga teacher from 1995, after having completed his yoga instructor course. With a background of microbiology and genetics, he pursued a yoga career and completed his masters and PhD in yoga. During this time, he specialized in working with individuals with breast cancer, providing them yoga as an add-on to their medical care. He has published several scientific papers on the effects of yoga on different phases of cancer treatment. Dr Amrit has conducted many workshops and taught in several countries like Japan, Turkey, Singapore and USA for over a decade. He has presented at several noted cancer and yoga conferences. In India, Dr Amrit has been actively involved in the world yoga day celebrations of the Government of India. He has helped in developing the common yoga protocol, training yoga teachers for deputation to Indian embassies abroad and developing the scheme for voluntary certification of yoga professionals offered by the Quality Control of India. Dr Amrit Ram has also been conducting stress management workshops for professionals in India and Abroad.

Dr Amrit Ram worked at Swami Vivekananda Yoga University as an assistant professor, teaching and guiding doctoral students in yoga. He presently works as a Senior Scientist, at the Complementary and Alternative Medicine Department of Health Care Global Cancer Hospitals, where he is actively developing and testing yoga protocols for different cancer types.

The world has seen significant improvements in the quality of cancer care over the last decade, though it remains one of the most dreaded. An increasing number of Cancer patients and oncologist now believe that that the mind has a vital influence over cancer but evidence is yet inconclusive. Literature indicates that mortality rates are 25% higher in patients who show depressive symptoms and 39% higher in those diagnosed with minor or major depression. Every cancer patient reports distress with almost 90% percentage of them report fatigue and nausea, and about 50% reporting constipation or anaemia. It is now understood that the mind, through the hypothalamic pituitary adrenal axis, not just creates imbalances at the endocrine levels, but also is responsible for immune imbalance. While this is relevant during cancer treatment, chronic HPA activation and immune-dysregulation is now being attributed to the onset of cancer itself. Yoga is becoming a popular choice for patients to help improve the ability to relax and cope it helps to overcome distressing symptoms and improve quality of life. Yoga is the science of bringing about homeostasis (samatva) at the mind level, which elicits a corrective physiology at the body level. By this definition, yoga practices can be personalised to the needs of each patient. There is now evidence to suggest that this, apart



from helping with better psychological profiles, also imparts better immunity and improves treatment outcomes. There is several studies focussed on psychosocial and quality of life outcomes of yoga on cancer patients, but attempts to understand the mechanism of action at the immune levels are scarce. This article focusses on four studies that have opted to evaluate immune effects of yoga. The first randomized control trial shows that, yoga provided to breast cancer patients have quicker wound healing, higher TNF- $\alpha$  and percentage of CD-56 cells post-surgery. Another RCT indicated a restoration of the cortisol rhythm following a yoga program during chemotherapy. The third RCT indicated that the immune cells of cancer patients doing yoga during radiotherapy were more resilient to DNA damage. The fourth cross sectional study showed that breast cancer patients who have done yoga regularly have lower pro-inflammatory activity and are able to ward off recurrences for longer. All these studies have shown a good correlation with other psychological and quality of life outcomes indicating that immune restoration is possible through a systematic correction of the psyche. Thus, it become imperative to provide support with yoga, during cancer treatment.



## YOGA AMONG CANCER SURVIVORS: A CASE STUDY



**Dr. Praseeda Menon**  
Research Officer, Kaivalyadhama

Dr. Praseeda Menon is currently working with the Scientific Research Department, Kaivalyadhama Yoga Institute, Lonavala, as Research Officer in Psychology. She is deeply interested in Indian Psychology, especially Yoga Psychology. Her work at Kaivalyadhama involves unearthing the potency of yogic methods of healing and well-being through interdisciplinary scientific research, as well as, making use of community-oriented approaches in yoga research. She teaches at the G. S. College of Yoga & Cultural Synthesis, Kaivalyadhama, and is a member of its Board of Studies & its Board of Examination. Additionally, she is also an Integral Member of the Kaivalyadhama Ashram.

**Context:** According to the WHO update, cancers are responsible for 8.8 million global deaths annually. In this context, the use of complementary therapy in the form of yoga and naturopathy can help in bringing back wellness to the physical, mental, emotional and spiritual dimensions of an individual.

**Aim:** To examine a subset of data from a longitudinal study about the psychological impact of a three-week intensive residential yoga retreat for cancer patients.

**Method:** The current study looked at case studies of six cancer patients attending the yoga retreat. Data was collected at four time-points, viz., on the first day of the retreat (T1), on the 20<sup>th</sup> day (T2), after three months (T3), and six months (T4) of the retreat. The tools used were psychological tests related to anxiety, depression, mood, quality of life, perceived stress, coping self-efficacy and subjective well-being.

**Results:** The substantial and consistent impact of the yoga retreat on all six patients was seen in their mood scores out of all the psychological measures. All six patients showed improvement in their total mood disturbance scores from T1 to T2, the minimum to maximum difference in the two scores ranging from 5 to 103 points, respectively. Although mood scores at T3 and T4 showed a trend towards deterioration, neither of the scores returned to the baseline.

**Conclusion:** The holistic approach to the individual adopted in yoga served as a means of psychological empowerment and developing deeper self-awareness for the cancer survivors over a longer term in the current study.



# Symposia:

## Prevention of Cancer: Role of Diet, Lifestyle Modification and Physical Exercise

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### Chairpersons

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Medical University of South Carolina, USA



## CANCER PREVENTION: A SUSTAINABLE PATH TO FIGHTING CANCER



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Dr. Naveen Visweswaraiah, a Fulbright Fellow, is a consulting Integrative Medicine physician and a yoga researcher. He is India's first qualified Yoga & Naturopathy physician and leads the field with 20 years of research; academic and clinical experience. He has co-authored 40 research publications in indexed peer reviewed journals. Dr. Visweswaraiah has lectured at institutes of repute viz., Harvard Medical School; Mayo Clinic; Center for Brain & Mind, University of California, Davis; MD Anderson Cancer Center, University of Houston; Center for Brain Research, University of Florida; Center for Mental Health, University of Melbourne; and National University of Singapore.

The triad of managing cancer involves Surgical-Radiation-Medical oncology. Most of the scientific, technological and pharmacological innovation is at the core of treating cancer. The end stage cancers where the conventional cancer care is no longer effective leaves the oncologists with an option called 'Palliative Care' which aims at managing the symptoms of terminally ill patients. All the advancements in cancer care have failed in reducing the global burden of cancer. The increased incidence of cancer across the world is attributed to early and better detection of cancer. While this is true, the primitive approach to cancer prevention has left the exponential increase in cancer unchecked. Cancer prevention is limited to tobacco cessation and at best reduced consumption of red meat. In recent years, Cancer Prevention has become a much larger proposition, which includes all possible lifestyle factors. A repository of carcinogens has been identified in different domains of modern lifestyle, which is yet to be recognized and acted upon with strict social and governmental barriers. There is a body of literature to demonstrate the anti-carcinogenic effect of nutraceuticals, which constitute functional foods; nutritional supplements and pure herbs. The population attributable factor [PAF] is being worked for all the factors in preventing the incidence of cancer. The preventability of cancer is demonstrated for obesity; dietary preferences and physical activity. Based on these studies it is estimated that 50% of all forms of cancer are preventable.



**Dr. Radheshyam Nayak**  
Consultant medical Oncology, HCG, Bengaluru

Dr Radheshyam MD, DM is the pioneer in the field of Medical Oncology with more than 25 years of strong academic experience in his field. He received advanced training from the world's leading institutions including M.D. Anderson Cancer Institute, USA, International School for Cancer Care, Oxford, UK, University of New South Wales, Australia, to name a few.

Regarded as an eminent oncologist and having experience of visiting renowned cancer hospitals around the world, Dr. Radheshyam has had an excellent academic career in managing all types of cancer and haematological disorders, with several peer-reviewed publications in leading journals. He is pioneer in conducting various Drug trials conducted over 50 chemotherapy drugs in nationally and internationally trials.

He has special interest in Bone Marrow Transplant programme and also undergone advanced trainings at Hadassah University, Israel; Detroit medical center, The New York hospital USA , Cornell Medical center and at Harper Hospital, Michigan, USA.

Dr. Radheshyam has been a major contributor in developing the field of Haematology and Bone Marrow Transplantation in Karnataka. He performed the first intra-arterial chemotherapy through port in Karnataka and also is credited for performing the first Bone Marrow Transplant in Karnataka.

Nearly 40% of all cancers are preventable cancers with tobacco and physical inactivity being the major cause of these cancers. The increase in obesity, and diabetes has also seen a rise in these preventable cancers. Epigenetic mechanisms that can lead to carcinogenesis are known to be modulated by stress, diet and lifestyle. Interventions that target epigenetic mechanisms may help in preventing major cancers such as breast, colorectal etc. However, the role played by these interventions once cancer develops to be evaluated further. We delve into various biological mechanisms that play a vital role in cancer development and progression and the role played by these interventions in inhibiting them.



## INCIDENCE OF CAM PREVALENCE IN CANCER PATIENTS



**Dr. Deepashree**  
Research Assistant, HCG, Bengaluru

Holds a Bachelors in Naturopathy and Yogic Sciences (2012-2016) from SDM College of Naturopathy and Yogic Sciences (SDMCNYS), Ujire. Secured overall 3<sup>rd</sup>rank in the RGUHS for BNYS and secured overall 2<sup>nd</sup> rank in the SDMCNYS for BNYS. Her key strengths include Yoga Therapy and Yogic Counselling, Yoga Instruction, Yoga Demonstration (Also for Advanced postures and yogic kriyas), Acupuncture, Diet counselling, Naturopathy diagnosis and Treatment, and Basic Physiotherapy. Worked as a Research assistant at Healthcare Global Enterprises (NABH Accredited). Has been an Executive Member at INYGMA Indian Naturopathy and Yoga Graduates Medical Association. Currently works as Yoga Consultant at Healthcare Global Enterprises (NABH Accredited). Participated and won prizes in several Division Level, State Level and National Level Yoga competitions held by various institutions at different places. Also has 2 publications to her credit

**Background:** The diagnosis and treatment of cancer poses severe psychologic distress that impacts functional quality of life. While cancer directed treatments are directed purely against tumour killing, intervention that reduces treatment related distress and improve quality of life is the need of the hour. Yoga is one such mind body intervention that is gaining popularity among cancer patients.

**Methods:** Several research studies in the last two decades unravel the benefits of yoga in terms of improved mood states, symptom reduction, stress reduction and improved quality of life apart from improving host factors that are known to affect survival in cancer patients. However, several meta-analysis and reviews show equivocal benefits for yoga. In this review, we will study the yoga intervention in cancer patients with respect to expectations, benefits and risks and anise the principles behind tailoring yoga interventions in cancer patients.

**Results:** The studies on yoga show heterogeneity with varied types of yoga interventions, duration, exposure, practices and indications. It also elucidates the situational context for reaping benefits and cautions against its use in several others. However, there are several reviews and bibilometirc analysis of effects of yoga; most of them have not enlarged the scope of their review to cover the basic principles behind use of these practices in cancer patients.

**Conclusion:** this review offers insight into the principles and practice of yoga in cancer patients.

**Keywords:** Cancer, clinical utility, meditation, risks, yoga



# Symposia:

## Integrating AYUSH into Palliative Care

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### Chairpersons

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**Dr. Linge Gowda**  
Director, KMIO  
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## UNDERSTANDING AND MANAGEMENT OF CANCER THROUGH KRIYAKALA (PROTOCOLS BASED ON ETIO-PATHOGENESIS) OF AYURVEDA



### **Dr. B R Ramakrishna**

Professor & Principal

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He is the Associate Dean, Division of Life Sciences, Swami Vivekananda Yoga Anusandhana Samsthana (S-Vyasa) University. Has 30 years of experience in teaching UG and PG courses ND 40 years of Professional Experience in Integrative Medicine Practice (Ayurveda, Modern system of medicine, Yoga & Naturopathy). 15 years of research experience including PG and PhD studies. Has developed 45 Poly Herbal Ayurvedic products which are exported. He has served as Professor, HOD, Principal, Dean & Director of Sushrutha Ayurvedic Medical College & Hospital Bengaluru, Associate Dean of Life Sciences, S-VYASA Yoga University Bengaluru, Director of the School of Yoga & Naturopathic Medicine S-VYASA Yoga University, Bengaluru, Member of Senate, Syndicate, BOS, & AYUSH, Faculty, RGUHS Bengaluru. Member of Karnataka Fee Regulatory Authority for professional courses and has held many other prestigious positions under various National and State boards.

Ayurveda, which is defined as Biology/Science of life is the most Ancient System of Healthcare known to mankind since the time immemorial. The main aim and objective of Ayurveda is to maintain the health of the healthy through preventive life-style management based on prakrthi (Personality/Constitution) and cure of the diseases through palliative and curative protocols which include detoxification, pain management, rejuvenation therapies and reorientation of life-style based on vikrthi (pathology) and finally addressing to the root cause of the disease which may be incoherent use of five senses with their respective objectives (Asaathmyendriarthartha Samyoga), intellectual blunder (Pragnaaparaadha) and effect of the changing Seasons (Parinaama).

Ayurveda upholds the theory of Nidaanapanchaka, the fivefold methods of understanding the cause of diseases namely Nidaana - Etiology, Poorvaroopaa - Predromata, Roopaa - Signs and Symptoms, Upashaya - Therapeutic diagnosis and Sampraapthi - pathogenesis/Different stages and factors of the onset of Disease from the time of inception to manifestation.

According to Ayurveda all the Somatic Diseases are manifested in six stages of pathogenesis known as Shatkaalas namely the stage of Chaya - Collection/ Accumulation of Doshas (Endotoxins), Prakopa (Aggravation), Prasara (Dispersion), Sthaanasamshraya (Localisation),



Vyaktha (Manifestation) and Bhedha (Differentiation).

Kriya refers to specific therapeutic protocols selected at different stages of pathogenesis (kaala) to relieve pain, prevent further progression of the disease process, cure the morbidity, and improve the quality of life. From the view point of Ayurveda, it is mandatory to understand the etio-pathogenesis of every disease at the earliest/inceptive stage and arrest further progression of morbid pathology by instituting appropriate therapeutic protocols.

Kriya kaala oriented understanding and therapeutic management of chronic diseases like Diabetes Mellitus, Hypertension, and Cancer etc. plays an important role from the view point of Ayurvedic Concept of disease understanding and management based on tridoshas.

Cancer being a structural morbidity which manifests in different stages essentially needs Ayurvedic Kriyaa kaala based approach for effective management and arrest of progression.



**Dr Raghavendra R**  
Consultant Palliative Care, CYTECARE

Currently he is a Consultant for Pain and palliative care at Cytecure Cancer Hospital, Bengaluru. He holds MBBS degree from Dr. B. R. Ambedkar medical college, Bengaluru, MD in Anesthesiology from Sree Siddartha Medical College and Research, Tumkur. He has held several teaching, clinical and consultant positions at several reputed institutes including Singapore General Hospital postgraduate institute, Health care Global, Mallaya Hospital etc mainly focusing on pain management and Anesthesiology. He has completed multitude of training and certification programs in the field of Palliative and End-of -Life care (USA), Children's Palliative Care (Mumbai), pain management (Mumbai), Anaesthesia and Ultrasound Workshop (Hyderabad) etc. He has performed Interventional Procedures for chronic pain patients include Mandibular, maxillary, glossopharyngeal, gasserian and Ganglion impar block and advanced procedures like Spinal cord stimulator, Intrathecal pumps. Intrathecal Porta-a- Cath system in cancer patients. He has won several awards for his presentations and has 2 publications to his credit. He aims to pursue Pain & Palliative medicine and thereby contribute effectively for the enhancement of the society



## RASAYANA THERAPY FOR MANAGEMENT OF ANOREXIA AND CACHEXIA IN PATIENTS WITH ADVANCED BREAST CANCER



### Dr. Avinash Kadam

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Dr Kadam is a Scientist (Clinical Research) Rasayani Biologics Pvt Ltd and Rasayu cancer clinic Pune. He holds an Msc in Pharmaceutical Medicine and BAMS degrees. He is a Medical Research professional working in field of clinical research in various complementary and alternative medicine (CAM). Has more than 10 years of experience in conducting scientific research studies in Ayurveda, Yoga and Naturopathy. Has rich experience in designing and conducting clinical studies on new chemical Entities (NCE) and drug development through Reserve pharmacology. Currently working on scientific validation of Ayurveda therapies in oncology. Also acting as a project lead for research projects in oncology involving new development through reverse pharmacology. Has more than 15 publications on various CAM modalities published in leading peer reviewed National and International Journals.

Yogesh Bendale <sup>1</sup>, Vineeta Bendale <sup>1</sup>, [Avinash Kadam](#) <sup>2</sup>, Poonam Birari <sup>1</sup>, Anand Patil <sup>1</sup> and Pravin Gund <sup>1</sup>.

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Anorexia and cachexia are major clinical problems seen in a large proportion of patients with advanced cancer. Malnutrition in cancer patients has been recognized as an important component of adverse outcomes, including increased morbidity and mortality and decreased quality of life. Early nutrition intervention has seen to improve outcomes in cancer patients like weight gain, treatment tolerance, and improved quality of life. Ayurvedic Rasayana therapy is known to prevent loss of body mass (Dhatu) and at the same time help to improve patients. Considering this we administer Rasayana therapy to all the advanced cancer patients taking treatment at our center. The important Ayurveda compounds used by us to prevent cachexia and Anorexia mainly includes suvarnasindoor, Hirak bhasma and Arogyavardhini. Here in this observational study we analyzed the data collected from a group of stage IV breast cancer patients (n=30) receiving rasayana therapy. Patients were followed at an interval of every 15 days from baseline for three months. All patients were asked to fill an appetite assessment questionnaire containing visual analogue scale. Quality of life in these Patients was recorded at a quarterly interval using Functional assessment of cancer therapies (FACT G) questionnaire. It was seen that in the duration of three months patients appetite increased significantly (P=0.03). Significant weight gain was seen in patients (P= 0.04). Significant improvement was also seen in Quality of life subdomains like Physical wellbeing (P= 0.01), Emotional wellbeing (P< 0.04) and Functional wellbeing (p < 0.001).



## INTEGRATING AYUSH INTO PALLIATIVE CARE



**Dr. Sunil Dhiliwal**  
Asian Cancer Institute, Mumbai

**Dr. Sunil Dhiliwal**, a Palliative Care Physician & Administrator of Palliative Home Care Program, a hospice care specialist, having experience of eight plus years, have consulted **11700** plus patients so far. He is from AYUSH background and has done his PhD in Home based Palliative Care.

Currently practicing Consultant Pain & Palliative Medicine at Asian Cancer Institute, Sion, and Kohinoor Hospital, Kurla, Mumbai and Director & Head, Dr Dhiliwal's Pain & Palliative Care, Vikhroli, Mumbai.

Apart from clinical practice, is a Lead in Research and Development (R&D) of Palliative Home Care, have done his Masters in Clinical Research, **also an** Educator - Palliative Care and End of Life Care Education.

- Teaching faculty for various internal and external training programmes and certificate courses conducted by the Palliative Care Services at Tata Memorial Hospital,
- Teaching Faculty for training program for Doctors & Nurses in Palliative Care for
- CPC (Children's Palliative Care) Project
- NRHM (National Rural Health Mission) Project
- NCD (Non Communicable Disease) Project
- Teaching Faculty for Social Worker & Volunteers Training Programme in Palliative Care.
- Teaching Faculty for Doctors & Nurses Training Programme in Pediatric Palliative Care.
- Organizer & Teaching Faculty for Training the Local General Practitioner in Principles and Symptom Management in Palliative Care.

He Maintains continuity of clinical care at all setting and provide afterhours care i.e work both at hospital and at home setting.

Cancer is one of the dreadful diseases of the present century. Despite many efforts, the success is still far and so the fear of the disease is bigger than the disease. Cancer is not new term to Ayurveda. Our great trio (Charak Samhita, Sushruta Samhita, Ashtang Samhita) had already described about the disease. Acharya Sushruta, father of Indian Surgery, has mentioned about 'Granthi' and 'Arbuda' having resemblance with the observations and clinical entities of cancer.

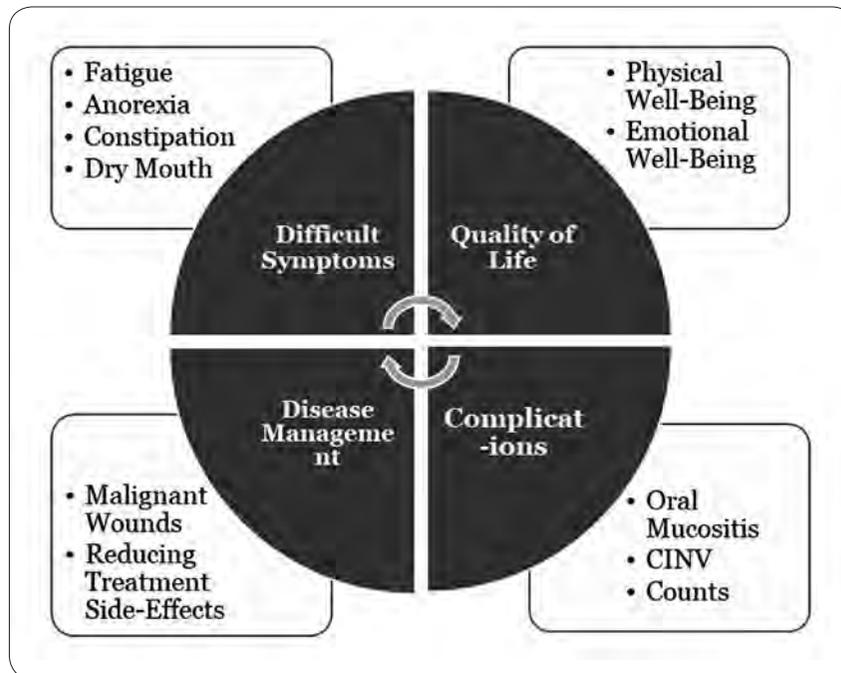
Palliative care is medical care provided by an interdisciplinary team, including the professions of medicine, nursing, social work, counseling, nutrition, rehabilitation, therapists, and other health care professions. It further aims to identify and address the physical, psychological, spiritual, and practical burdens of illness.

The goal of palliative care is to prevent and relieve suffering and to support the best possible



quality of life for patients and their families, regardless of the stage of the disease or the need for other therapies.

### Problem areas where AYUSH has a role



AYUSH and Allopathic, both systems, often provide solutions to a common set of problems. Many times both systems complement each other also.

Now it's time to ensure that the Health care delivery system in the country is designed and developed in such a way that, both, AYUSH and allopathic systems are available to every patient and the choice of system of treatment is the patient's choice, based, of course, on set protocols. AYUSH has presence in all parts of the country.

In addition, it has near universal acceptance, available practitioners and infrastructure. The strength of AYUSH system lies in preventive & promotive health care, diseases and health conditions relating to women and children, non-communicable diseases, stress management, palliative care, rehabilitation etc. AYUSH has very little side effect, has a soft environmental footprint and is engrained in local temperament.

For centuries, herbal medicines were the primary source of medical treatment for the world's population. Currently, the use of herbal supplements in the US is exceedingly common and has been steadily increasing.

Several Evidences are available and published in AYUSH journals and literature to suggest effectiveness of AYUSH interventions in Cancer Care with respect to drugs for Symptomatic Relief, Psychological interventions like mantras, japas, prayers, relaxation techniques, cognitive behavioural therapy (pranayama, dharna, dhyaan, Samadhi) counselling, music therapy, emotional support, social support etc to relieve distress and enhance QoL of patients and caregivers, Diet as per the body constitution (vata,pitta,kapha), Various types of external



therapies like oiling the body, steaming, rubbing of medicinal powders in body, application of medicated pastes, application of medicine filled poultice to body, pouring of medicated liquid or oil over body in a systematic pattern with light massage, bandages etc to ease the mind, reduce anxiety and improve brain functions. Usage of Rasayana therapy to effectively control skin diseases, improves memory and immunity. The importance and efficiency of yoga is gaining acceptance worldwide.

## **Conclusions and Future Recommendations**

Integration of AYUSH in oncology-palliative care patients is associated with good clinical outcomes.

There is promising evidence published in AYUSH journals and literature to suggest effectiveness of AYUSH interventions in Cancer Care.

AYUSH based interventions can play a vital holistic complimentary role alongside treatment and palliation of patients with cancer. There is a need for conducting large multi-centric experimental trials to establish this observation as empiric evidence.

To combat cancer and combining traditional healthcare knowledge with conventional systems will make complete health care setup under one roof.

Although several cancer centres today now have a palliative care program, significant gaps and interruptions in the delivery of care still remain.



# Symposia:

Understanding of Cancer  
according to Indian System  
of Medicine and Modern Medicine

## Chairpersons



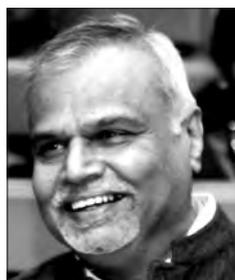
**Vaidya Prof. K S Dhiman**  
Director General, CCRAS  
Govt of India, New Delhi



**Dr. G G Gangadharan**  
Director, M S Ramaiah Indic Centre for  
Ayurveda and Integrative Medicine  
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## INTEGRATIVE ONCOLOGY: ROLE OF AYURVEDIC RASAYANA AS ADJUVANTS



### **Dr. Bhushan Patwardhan**

Professor, Interdisciplinary School of Health Sciences  
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He is the Director, Center for Complementary and Integrative Health, Interdisciplinary School of Health Sciences, Savitribai Phule Pune University, Pune. Has over 30 year experience in research and development in the area of evidence based Ayurveda, ethno pharmacology, drug discovery & development and integrative medicine. He is a Fellow of National Academy of Sciences (India) and National Academy of Medical Sciences (India). He worked as academic head of Manipal Education Group; Director, Institute of Ayurveda and Integrative Medicine, Bengaluru; Vice Chancellor, Deemed University in Pune, and visiting Professor at Indian Institute of Advanced Studies, Shimla. He has worked on Boards of several Universities and member of important national committees and policy making bodies. He was invited as consultant to the World Health Organization Geneva. He is recipient of many orations, awards has delivered invited lectures at many national and international institutions. His recent scholarly books 'Integrative Approaches for Health: Biomedical Research, Ayurveda and Yoga' published by Academic Press Elsevier have received excellent reviews. He has guided 19 PhD students, 8 Indian Patents, 2 US Patents and over 120 research publications with Scholar h-Index 41 and over 6250 citations.

The current cancer therapy indeed is moving rapidly in favor of integrative oncology where Ayurveda and Yoga can play important role. Several reports are available indicating beneficial effects of yoga in prevention and management of cancer by reducing stress, improving immunity and mental condition. Current cancer therapies have limitations especially because of various side effects of cytotoxic chemotherapeutic drugs. Various types of therapeutic adjuvants are considered as an option to improve clinical outcomes of conventional therapy to improve quality of life and reduce disease burden. Several Ayurvedic medicinal plants with Rasayanas properties have anti-inflammatory and immunomodulatory activities. Our research indicates that selected Ayurvedic rasayanas like Ashwagandha, Guduchi and Shatavari can be effective as therapeutic adjuvant to counter myelosuppression related side effects of anticancer drugs used in chemotherapy. Evidence based integration of Ayurveda and Yoga can play an important role in prevention and management of cancer.



## SIDDHA, AN AYUSH SYSTEM OF MEDICINE IN CANCER CARE AND SCOPE FOR INTEGRATIVE ONCOLOGY



**Dr. B.R. Senthil Kumar**

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Dr. Senthilkumar, is a Siddha graduate (BSMS) & Siddha practitioner. He has obtained his master degree (M.Sc - 1997) and doctorate (Ph.D - 2005) in Medical physiology from Dr ALM Post Graduate Institute of Basic Medical Sciences, University of Madras, Chennai, India. In 2003, he received Sri Nageswara Rao Pantulu prize for the Best research in the field of Medicine from University of Madras. Followed by his doctoral degree, he has done his post-doctoral studies at University of Chicago, USA between year 2005 - 2011. He worked as Assistant Professor (Research) from 2011 to 2013 at University of Illinois at Chicago, USA (He worked at USA about 7 years). He has published 8- research article in peer reviewed international journals such as The Journal of Clinical Investigation (JCI), The Journal Of Biological Chemistry (JBC). He is a member of very prestigious societies and boards. Currently, he is undertaking a research study entitled, 'Siddha medicine in the treatment of cancer patients - a prospective observational study" - focused on Quality of Life in cancer patient followed by Siddha treatment at National Institute of Siddha, Chennai. Tamil Nadu.

The incidence of cancer in India is expected to increase about 2.1 million by 2020. To provide a quality cancer care to patients integration of AYUSH system of medicine with standard therapy is need of hour. Integrative oncology will be helpful to reduce treatment related side effects and to make cancer care more affordable. Siddha system of medicine is widely practiced in the south India, Sri Lanka and Malaysia. The holistic approach and preventive health care is the uniqueness of Siddha system. Cancer is referred as 'Putru' in Siddha which literally means 'Termite mound' because of its characteristic metastatic nature. Based on the organ involved, different types of 'Putru' (cancer) have been classified in Siddha literature. Various type of drugs have also been mentioned in Siddha system for cancer which includes single herb, polyherbal and herbomineral formulations. The efficacy of some Siddha formulations have been proven by using *in vitro* and *in vivo* studies. Furthermore, different treatment modalities such as massaging, *varma* therapy (a kind of acupressure) and Siddhar *yoga muraigal* ( different types of yoga) are also recommended. The *Kayakalpa* (Rejuvenator) drugs of Siddha medicine acts as immunomodulatory and promotes wellness. Siddha system also advocates a prescribed diet regimen for each type of cancer which includes energy beverages and functional foods. A prospective observational study in cancer patients suggested that palliative therapy of Siddha medicine improved their Quality of Life (QoL). Hence, there is tremendous scope to integrate Siddha system of medicine with main stream medicine based on type of cancer, staging, health condition of the patients.t



## **Symposia:** Yoga and Psycho-oncology

### Chairpersons



**Dr. Vijay Agarwal**  
Sr. Consultant Medical Oncologist  
HCG, Bengaluru



**Dr. Sridhar P S**  
Radiation Oncologist, HCG  
Bengaluru



**Dr Archana Purushottam**

Prof, Neurosciences, Tony Brook Medical Center,  
New York

Dr. Archana Purushotham is a Vascular Neurologist and Neuroscience Researcher at SUNY Stony Brook, NY. She holds an MBBS from JIPMER, MTech and PhD in Biomedical Engineering from IIT, Bombay and the University of Minnesota, respectively. She trained in Neurology at the University of Arizona, and subspecialized in Vascular Neurology at Stanford University. Her research focused on Neuroimaging including fMRI and acute stroke imaging up until that time. She then joined the faculty at the Institute for Stem Cell Biology (inStem) at NCBS, Bangalore, and during her tenure there, developed an interest in Ayurveda. Her lab at inStem worked on multiple Ayurveda-related projects, and she remains deeply committed to research into Yoga and Ayurveda, and how best to integrate them with the western medical paradigm.

Both short term and longterm toxicity of chemotherapy along with accompanying distress have been shown to impact patient's functional quality of life. Among these cognitive impairment caused due to chemotherapy induced neurotoxicity and stress is a common side effect seen during and after chemotherapy. This is reported in upto 75% of the population and is often known as 'chemo-brain' or Chemotherapy Induced Cognitive Impairment (CICI). Most of this cognitive impairment relates to loss of attention span, concentration, information processing and speed and working memory. It is seen that cancer patient's development of CI has been attributed to biological mediators such as chronic neuroendocrine induced stress response, causing elevated glucocorticoids levels and HPA axes dysfunction that are known to cause neuronal damage and inhibit neurogenesis. This can impact cognitive functioning directly or increase the propensity for neuronal damage and neurotoxicity by chemotherapy drugs. Both yoga and ayurveda have independently shown beneficial effects in improving cognitive function in healthy and ageing population. The neuroprotective benefits of Ayurvedic drugs have been validated in preclinical and clinical studies. They have shown beneficial effects in parkinson's, Alzheimer's, senile dementia etc. Understanding their mechanism of action in evaluating its utility in management of neurotoxicity is of prime importance in integrating these approaches in cancer care.



## STIMULATION OF SALIVARY BIOMARKERS FOLLOWING PRANAYAMA, AND THE USE OF PRANAYAMA AS A POTENTIAL ADJUNCT IN CANCER SYMPTOM MANAGEMENT



### **Dr. Sundar Balasubramanian**

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Dr. Sundar Balasubramanian is a Cell Biology researcher. He is currently studying mechanisms of resistance to cancer therapy and the role of single nucleotide polymorphisms in cancer cell signaling, and teaching radiation biology at the Medical University of South Carolina, USA. He is also a Yoga Biology researcher. His recent research has provided scientific evidence how Pranayama practices could promote our wellbeing through differential biomarker expression. Dr. Balasubramanian grew up in India in a traditional Yoga and Siddha medicine practicing family background; and went to Swami Chitbhanananda Vivekananda Gurukula College, Thiruvadakam, Madurai, India where he further learned Asana, Pranayama, Meditation, and Kirtan practices. Subsequent to his PhD in Biochemistry from the University of Madras he moved to the US for his postdoctoral research. He is a member of International Association of Yoga Therapists, and the Integral Yoga Teachers Association. He is an IAYT-certified Yoga Therapist. He is the founder of PranaScience Institute, and the author of the book "PranaScience: Decoding Yoga Breathing". His popular TEDx Charleston talk summarizes his research on Pranayama: <https://www.youtube.com/watch?v=alfwbEvXtwo>

Pranayama (Yogic breathing; YB) is a form of Yoga practice adopted for healthy living. Asana among cancer patients might help with symptom management, however data on Pranayama is only limited. Considering the ease of practice, YB might benefit patients who are already physically overwhelmed with disease burden. While subjective measures are key to assess clinical outcomes, biomarkers might provide key information as to the effects and mechanisms of YB. We hypothesized that YB stimulates alterations in the salivary biomarker expression. We conducted a pilot randomized controlled trial to compare the salivary expression of biomarkers between a YB group vs. Attention Control (AC) group. The YB group performed two exercises, and the AC group read a text for 20 minutes. Proteomic analysis showed the differential expression of several salivary proteins associated with immune response, stress and cancer. As compared with the AC group, YB caused differential expression of deleted in malignant brain tumors-1, nerve growth factor, IL-1beta, and IL-8. We next explored the feasibility and acceptance of Pranayama intervention among cancer patients and caregivers. Pranayama classes were held weekly at the American Cancer Society Hope Lodge for 20 minutes weekly. Participants were taught five different breathing exercises and after completion of the exercises a self-reported questionnaire was administered. Findings indicate that Pranayama is acceptable to patients and caregivers and help alleviate some of the side effects resulting from cancer treatment. Collectively, our data provide evidence that YB could be a potential adjunct and could alter salivary biomarkers implicated in cancer.



## MENTAL HEALTH IN CANCER CARE



**Dr. Santosh K Chaturvedi**

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Dr. Santosh Kumar Chaturvedi, M.D.; FRCPsych is the Dean, Behavioural Sciences and Professor of Psychiatry at the National Institute of Mental Health & Neurosciences, Bengaluru, India. He is a Member of the International Psycho-Oncology Society and Indian Association of Palliative Care and was a Member of Board of Directors, International Psycho Oncology Society. He regularly conducts Workshop on Communication Skills in Oncology and Palliative Care settings, and also trains trainers in teaching Communication skills. His areas of interest include consultation liaison psychiatry, chronic pain, psycho-social oncology, palliative care and quality of life research. He was awarded the National Award by the Indian Council of Medical Research on three occasions for contributions in the field of Mental Health. Has more than 100 publications on psycho-social oncology & palliative care. He is a member of very prestigious associations and societies pertaining to his field like Royal College of Psychiatrists (UK), International Association for the Study of Pain, Indian Association of Palliative Care, World Psychiatric Association and many more.

Cancer and mental health related issues come under the theme of psychosocial oncology, which is a well-developed area of interest. This deals with numerous psychiatric, psychological and social aspects of malignancies. Psychiatric Oncology relates to some of the common psychological and emotional problems encountered in persons with malignancy and their formal and informal caregivers.

This presentation will discuss the common mental reactions to the diagnosis of cancer, psychological and emotional problems related to cancer, like depression and anxiety. This talk would also share the findings and researches of the presenter. These range from studies on cancer pain and palliative care, screening for psychiatric morbidity, quality of life, communication skills for health professionals in breaking bad news and handling difficult questions and counseling. The findings on researches on somatic symptoms and illness behaviour in cancer patients would highlight newer challenges in this field.

Caregivers of persons with cancer are as important as the patient, but usually ignored. The stress, strain, burden, positive emotions and coping in the context of care giving for persons with cancer are being increasingly realized. Professional caregivers should be aware of caregiver difficulties and support them through their ordeal. Lastly, the importance of dealing with staff stress and burnout among health professionals looking after families with cancer patients and survivors will be emphasized.



## THE ROLE OF BDNF IN NEUROCOGNITIVE FUNCTION IN CANCER PATIENTS: IS IT THE TARGET MOLECULE FOR YOGA INTERVENTION?



### Akshay Anand

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Akshay Anand graduated from Post Graduate Institute of Medical Education and Research (PGIMER). After obtaining his post doctoral training at Department of Immunopathology in the same Institute he joined the University of Kentucky as Scientist II. After serving there for two years, he returned to join faculty of Department of Neurology PGIMER. He was instrumental in setting up the Neuroscience research cum diagnostic facility which he currently runs in GLP mode. He is a strong advocate of science entrepreneurship and Integrative Medicine schemes. Dr Anand is a research improvement specialist who is interested in understanding the molecular mechanisms of neurodegeneration utilizing invitro, invivo, alternative and biotherapeutic approaches central to cell survival mechanisms. His other research interests range from analyzing the role of genetic and other risk factors that modify ALS, PD, AD and AMD to screening of novel drugs for memory enhancement. He has also been involved in the discovery of animal model of AMD published in *Nature Medicine*. Dr Anand was selected of ICMR Amrut Mody Unichem Prize- 2012, Annual PGI faculty award-2013, 2014, Sardar Vallabhabhi Patel Foundation 9<sup>th</sup> Sardar Patel Award, 2014, Scopus Young Scientist Award Runner up, National Academy of Sciences India, New Delhi, 2012, ICMR Shankuntla Amir Chand Award (2010) for his work on *Brahmi*, Young Scientist Award from DAE (2005), Retina Research Foundation / Joseph M. and Eula C. Lawrence Award (2003), served as Judge at ISEF, USA (2002-3), obtained over 23 International travel awards, and is the Editor in Chief of Annals of Neurosciences the official journal of Indian Academy of Neurosciences and Integrative Medicine International the official journal of Karger besides serving on Editorial board of Nature Scientific Reports and Neuroepidemiology and over 2 dozen Journals. He is also Reviews Editor of Frontiers in Behavioral Neurosciences and on Editorial Advisory Board, User-Driven Healthcare and Narrative Medicine: Utilizing Collaborative Social Networks and Technologies and other International Journals. Dr Anand is the guest faculty in the Human genomics program of Panjab University and advisor to the local chapter of Indian Muscular Dystrophy Association. He has over 111 publication in international peer reviewed Journals. He was also designated Expert on Mission by ICGEB, Trieste for Intellectual property and the resource faculty for various national and International forums and academic and regulatory committees.

Cancer and its treatment is a devastating experience for patients who may undergo bouts of Depression and fatigue. Cancer related cognitive impairment has also been widely acknowledged as the limiting factor for Quality of Life in Cancer patients and survivors even though several neurodegenerative disorders show inverse prevalence rate when compared to Cancer incidence. Serum Brain Derived Neurotrophic factor has been found to be altered in Cancer patients with cognitive decline. Data from our lab showing the involvement of BDNF in animal models of memory loss will be presented in designing new studies that hypothesise the role of Yoga in abolishing BDNF and/or NEGF mediated cognitive decline. Other related studies with Yoga intervention in the context of Psycho-oncology will be presented.



**Dr. Nagarathna R**  
Medical Director, Arogyadhama  
VYASA, Bengaluru

## **Panel Discussion:** Mainstreaming AYUSH in Cancer Care: Scope and Challenges



**Dr. B R Senthil Kumar**  
National Institute of Siddha,  
Chennai



**Dr Issac Mathai**  
Medical Director, Soukya,  
Bengaluru



**Dr. Ahalya Sharma**  
Joint Director, AYUSH,  
Govt of Karnataka



**Prof. Alex Hankey**  
Distinguished Professor,  
S-VYASA, Bengaluru



**Dr. H R Nagendra**  
Chancellor, S-VYASA

## Panel Discussion: Future Roadmap for Integration of AYUSH in Cancer Care: Call for action



**Dr. Ishwar V  
Basavaraddi**  
Director, MDNIY



**Dr. Ishwar Acharya**  
Director, CCRYN



**Dr. R S Ramaswamy**  
Director General, CCRS



**Dr. Manjunath N K**  
Director - R&D,  
S-VYASA



**Dr. Prashanth Shetty**  
Principal, SDM Ujire



**Dr. Raghavendra Rao**  
Senior Scientist & Head,  
CAM Program, HCG



**Dr. M A Siddiqui**  
Director, NIUM



**Dr. Rathan Kelkar**  
Director of AYUSH, GoK



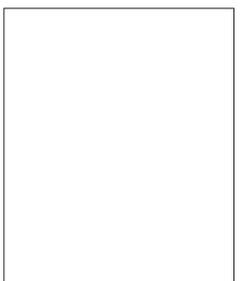
**Dr. Ananda Balayogi  
Bhavanani**  
Chairman, ICYER



**Dr. Sathyalaxmi**  
Director, NIN



**Dr. Arun Gupta**  
Dabur India Ltd.



**Dr. Vinayak Kambarkar**  
Registrar, KAUPB



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*Abstracts*  
Oral Prize  
Paper Presentation



# 22<sup>nd</sup> INCOFYRA

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## EFFICACY OF HEART FAILURE REVERSAL TREATMENT FOLLOWED BY 90 DAYS FOLLOW UP IN CHRONIC HEART FAILURE PATIENTS WITH LOW EJECTION FRACTION

Sane Rohit, Dongre Snehal, Ghadigaonkar Pravin, Patil Sachin, **Mandole Rahul**  
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**Background:** India is about to face heart failure epidemic with a heart failure burden of as many as 8–10 million patients. The study was designed to evaluate efficacy of heart failure reversal therapy (HFRT) in chronic heart failure (CHF) patients with low ejection fraction.

**Methods:** This efficacy study was conducted in CHF patients (aged: 25–65 years, ejection fraction (EF) <30%) wherein HFRT (60–75 minutes) consisting of snehana (external oleation), swedana (passive heat therapy), hrudaydhara (concoction dripping treatment) and basti (enema) was administered twice daily for 7 days. During this therapy and next 30 days, patients followed the study dinacharya and were prescribed ARJ kadha in addition to their conventional treatment. The primary endpoint of this study was evaluation of maximum aerobic capacity uptake (MAC) as assessed by 6 minute walk distance (6MWD) using Cahalins equation from baseline, at end of 7 day treatment, follow-up after 30 days and 90 days. EF was assessed by 2D Echo at baseline and after 30 days of follow-up.

**Results:** CHF patients with <30% EF (N=52, mean [SD] age: 58.8 [10.8], 85% men) were enrolled in the study. There was 100% compliance to study therapy. A significant

improvement was observed in MAC levels (7.11%,  $p=0.029$ ), at end of 7 day therapy as compared to baseline. This improvement was maintained at two follow-up visits. Moreover ejection fraction was observed to be increased by 6.38%,  $p=0.012$  as compared to baseline at day 7 of the therapy.

**Conclusions:** This 90 day follow up study highlights benefit of HFRT, as a part of maintenance treatment for CHF patients with reduced ejection fraction.

**Keywords:** chronic heart failure, heart failure reversal therapy, oxygen uptake, functional capacity, panchakarma

## IMPACT OF PANCHAKARMA THERAPY ON $VO_{2\text{peak}}$ IN ESSENTIAL HYPERTENSIVE PATIENTS: AN OBSERVATIONAL STUDY

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**Background:** Hypertension is identified as an etiological factor for CHF in 20.3% as per Swedish study conducted in 7500 patients which was followed up for 27 years. Two population-based studies recent data indicates that hypertension is responsible for CHF in 4%–20% of patients. Thus, this observational study was conducted to observe the impact of Blood pressure management program on Maximum Aerobic Capacity in essential hypertensive patients.

**Methods:** In this observational study, 20 patients [Mean Age: 51 ( $\pm 9$ ) years and SBP  $\geq 130$  mmHg] taking prescribed concomitant medications were selected. Blood Pressure Management program comprises of



Panchakarma procedure which includes whole body snehana(external oleation) and swedana(passive heat therapy) with Shirodhara were given to the patients, which was completed in 15 sittings. Maximum Aerobic Capacity (MAC) was measured at baseline and during 12-week follow-up along with Systolic blood pressure and Diastolic blood pressure.

**Results:** In 20 patients, MAC was improved by 18.93% [from 24.92(±9.08) mL/kg-1/min-1 to 29.64(±7.22) mL/kg-1/min-1 (p=0.005)], Systolic Blood Pressure reduced by 11.29% [from 145.3(±12.72) mmHg to 128.88(±13.23) mmHg (p=0.0004)] and Diastolic Blood Pressure by 7.36% [from 87.8(±8.94) mmHg to 81.33(±7.60) mmHg (p=0.014)].

**Conclusion:** The study highlights benefit of Blood pressure management program not only in the reduction of the blood pressure (SBP/DBP) but also in the improvement of quality of life (Maximum Aerobic Capacity) in essential hypertensive patients.

**Keywords:** Panchakarma therapy, Maximum aerobic capacity, systolic blood pressure, heart failure.

## DEVELOPMENT, VALIDATION AND FEASIBILITY OF A COMPREHENSIVE YOGA THERAPY PROGRAM IN PEDIATRIC CANCER PATIENTS

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**Aim:** To develop, validate and test feasibility of a comprehensive yoga therapy module for pediatric cancer patients.

**Settings and Design:** After thorough literature review, yoga practices ideal for

Pediatric cancer patients were selected. A yoga program was developed consisting of loosening, asana, chanting, meditation for 4-6 weeks during radiation.

**Materials and Methods:** Ten yoga professionals, oncologists and pediatricians validated the yoga module (3 point scale). The final modified module was drafted and tested on 20 randomly recruited pediatric cancer patients (10 CNS tumours) undergoing radiation at Kidwai Cancer Institute, Bangalore. CHQ Pf 50 was assessed before yoga therapy and at discharge. Weekly assessment of HB, WBC and Platelet was conducted.

**Results:** Practices that receive score of three or more (moderately/very much/extremely useful) were included in the module. All experts opined that the module is easy to teach and practice. Three experts opined the duration should be extended to 8 weeks. The module was finalised and tested on 20 patients, 17 of which completed the study. 80% positive response was assessed by informants either father or mother. Physical functioning showed good clinical significance ( $p=0.046$ ), while behaviour and Mental health ( $p>0.05$ ). General health perceptible ( $p=0.36$ ) show trend towards significance. HB Pre (11.1±1.93) to HB Post (10.95±1.17), WBC (7.58±4.14) to WBC post (7.86±6.13) and Platelet Pre (245.85±90.50) to Platelet post (204.5±50.29).

**Conclusion:** The developed comprehensive yoga therapy module validated by experts demonstrates feasibility among pediatric cancer patients.

**Key words:** Yoga, cervical-cancer, chemo-radiation



## CONCEPT OF YOGA INTELLIGENCE AS FORM OF COMPREHENSIVE YOGA THERAPEUTIC EFFECTS MEASURING

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The concept of yoga intelligence was used with the aim of bridging the gaps concerning a more comprehensive picture regarding partial effects of yoga practice. It was used in order to examine overall effects which lead to the development of particular capabilities, characteristic only of yoga practitioners. This research focuses on analyzing the use of instruments for measuring yoga intelligence which encompass all dimensions of the being (biological, cognitive-affective, social, creative and spiritual), with the goal of verifying the changes taking place after practicing yoga. With the correct application of yoga techniques the practitioner can avoid activating psychological mechanisms which contribute to the formation of many illnesses, including cancer. Yoga therapy and yoga energotherapy application, combined with standard medical therapy, can act preventively, as well as increase the probability of the recovery and rehabilitation process. Therefore, applying valid measuring instruments is of crucial importance for estimating comprehensive effects of yoga practice and yoga energotherapy. More methodological elaboration and validation of the yoga intelligence instrument will ensue, with the goal of recording possible variations for further analysis in the future.

**Key words:** Yoga intelligence Yoga therapy  
Yoga energotherapy

## ROLE OF YOGA IN MANAGING CHEMOTHERAPY INDUCED NAUSEA AND VOMITING: A RANDOMIZED CONTROLLED TRIAL

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**Background:** Chemotherapy is the cornerstone of treatment for patients with cancer. Chemotherapy induced nausea and vomiting (CINV) is a common distressing symptom associated with the treatment. In this study, we evaluated the effects of Yoga vs. Jacobson's relaxation training on CINV outcomes in chemotherapy naive patients undergoing moderately to highly emetogenic chemotherapy.

**Methods:** One hundred and twenty patients who satisfied the selection criteria and consented to participate were randomized to receive Yoga or Jacobson's relaxation or serve as waitlist controls for first 4 cycles of chemotherapy. The interventions were imparted for a duration of 25 minutes by a trained instructor. Assessments for nausea and emesis included functional living index emesis, nausea diary and cardiac autonomic function and electrogastrogram. These tests were carried out at baseline, six days after 1<sup>st</sup> cycle, after 2<sup>nd</sup> and 3<sup>rd</sup> cycle of chemotherapy. Assessments for mood states such as anxiety and depression using HADS, and perceived stress were carried out at baseline and after 3<sup>rd</sup> cycle of chemotherapy. Data were analysed using repeated measures ANOVA with post hoc Bonferroni tests.



**Results:** There was a significant decrease in acute and delayed nausea severity in Yoga compared to control and Jacobson's group after 1<sup>st</sup> cycle of chemotherapy. There was a significant decrease in self reported anxiety and depression in Yoga and Jacobson's relaxation compared to control group following 3<sup>rd</sup> cycle of chemotherapy. There was significant decrease in LF/HF (low frequency and high frequency) ratio in Yoga group compared to control group after 3<sup>rd</sup> cycle of chemotherapy. There was a significant decrease in bradycastria and tachycastria percentage in Yoga group compared to Jacobson's and control group becoming more evident after 3<sup>rd</sup> cycle of chemotherapy.

**Conclusions:** Both Yoga and Jacobson's intervention showed beneficial effects in reducing chemotherapy induced nausea and vomiting. Yoga helped to normalise gastric motility and enhanced cardiac and gastric parasympathetic activity in subjects undergoing chemotherapy.

**Keywords:** Nausea, Vomiting, Yoga, Cancer, Chemotherapy.

## NAVAGRAHA MODEL OF ŚARĪRA ACCORDING TO JYOTIŚĀSĀTRA AND SĀKHYA YOGA DARŚANAS

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The Śarīra (body) is described as *Bhogāyatanam*, i.e., the seat of experiences (*Bhoga*'s). The *Pañcakośās* of Śarīra is a well-known model, as described in the *Taittirīya-Upaniṣat*. But, the experiences (*Bhoga*), their time duration (*Āyu*) and the type of birth that supports these

experiences (*Jāti*) are less-explored areas of interest in the modern research on Yoga, although the concepts are well explained in the *Sādhanapāda* of *Patañjali Yogasutras*. These sutras explain the essence of *Kleśa-Karma-Vipāka-Āśaya*'s. These concepts of *Jāti-Āyu-Bhoga* are well understood from the classical texts of *Jyotiśāśāstra* and *Sākhya-darśana*. *Sākhya-darśana* elaborates the *sthūla-śarīra* and *sūkṣma-śarīra* with the help of 25-tattvas. *Jyotiśāśāstra* gives the *nava-graha* framework of Śarīra, which explains the detailed nature of experiences (*jāti-āyu-bhoga*) based on the relativity of Direction (*dik*), Place (*deśa*) and Time (*Kāla*) and the three types of Karmas – *Sañcita*, *Prārabdha* and *Āgāmi*. It's essential to understand these concepts because, both *Ādhija* and *Anādhija vyādhi*'s are a result of Karma and its *Vipākas*.

The current article elaborates the Navagraha model of Śarīra with reference to *Jyotiśāśāstra* and *Sākhya Yoga darśanas*. The relativity of *dik* and *deśa* is explained by the Bhackara model of navagrahas. The relativity of *kāla* and its relationship with the breathings is elaborated with the help of Prāic theory of time according to Sūrya Siddhānta. The nature of *Jāti*, *Āyu* and *Bhoga* are explained by using *Vimśottari-daśa* and *Akavargu* systems of *Bṛhat Parāśa Horāśāstram*.

**Keywords:**

Navagraha model of Śarīra, Relativity of *Dik-Deśa-Kāla*, *Vimśottari*, *Akavargu*, *Kleśa-Karma-Vipāka-Āśaya*, *Dukhatrayam*.



## AN OBSERVATIONAL STUDY ON THE PROGNOSIS OF CANCERS USING HOLISTIC PROGNOSTIC TOOLS

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**Introduction:** As far as the contemporary science of medicine is concerned TNM staging is considered to be the gold scale in the prognosis of cancers; but Ayurveda the science of life and Jyothisha has various other modalities in determining the life of a patient. So a study was conducted on 17 patients of various age groups diagnosed with cancer and are on treatment.

**Materials and Methods:** 17 cancer patients of both the age groups belonging to various age groups and various TNM staging who approached the OPD of Narayana Ayurveda Chikitsalayam for other co-morbidities during the cancer treatment were studied based on TNM staging, a special questionnaire prepared based on Dashavidha Pareekshas, Saashyaasaadhyatwa of Vyadhi, Paadachatushtaya, Arishta Lakshanas and a horoscopic consultation based on the Griha Sthithi of Papa Grahas Viz Rahu, Ketu and Gulikan and the Charadrushti of Shani. The study was conducted for a period of 1 year from 23<sup>rd</sup> November 2015 till 22<sup>nd</sup> November 2016.

**Observations:** In patients where the Sadhya vyadhi lakshanas, Satwa Bala, Agni Bala, Paricharaka Bala and in patients who had no Papa gruha association in 8<sup>th</sup> house the survival rate was found to be better. In patients where Satwa bala was less but had a good support of Paricharakas (family support) still the patients had good survival rates. In patients where there was association of Papagruhas in 8<sup>th</sup> house the survival rates was found to be lower.

**Conclusion:** In patients who are suffering from Cancers TNM staging need not be the only standard in affirming the prognosis, the role of attender and family support is found to be very crucial in management of patients suffering from cancer. In cases of patients who have papagruha association in the 8<sup>th</sup> house Daiva Vyapashraya Chikitsa and Homas can be conducted. In patients who have Madhyama and Avara Satwa Bala breathing excercices and meditation are found to be helpful in improving the Satwabala. So a holistic approach along with TNM staging is found to be a better tool to determine the prognosis of patients suffering from Cancers.

## EFFECT OF YOGA ON IMMUNE CELLS IN PATIENTS UNDERGOING CHEMORADIATION FOR CERVICAL CARCINOMA

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**Aim:** To analyze the trend of CD3+ cells, WBC, lymphocytes and granulocytes in cervical carcinoma patients undergoing chemoradiation with yoga.

**Method:** Fourty (yoga n = 20, control n = 20) patients (Mean age:46.95 years) diagnosed with squamous cell carcinoma of cervix (Stage IIB-IIIB) were enrolled for this study where an hour of yoga was given for four days weekly. Patients' blood samples were collected at baseline, middle and post chemoradiation to evaluate CD3+ percentage WBC, lymphocytes and granulocytes.



**Result:** Mean & SD for CD3+ cells percentage in yoga : non-yoga group at baseline, mid treatment & post treatment was 76.15±9.16%:68.79±12.5%, 86.51±5%:77.22±16.66% & 82.29±9.17%:78.62±8.3%; for WBCs 8770 ± 3190/mm<sup>3</sup>:9890 ± 4840/mm<sup>3</sup>, 5650 ± 2060/mm<sup>3</sup>:7520 ± 3740/mm<sup>3</sup> & 4580 ± 1750/mm<sup>3</sup>:7060 ± 2690/mm<sup>3</sup>; for lymphocytes 1280 ± 970/mm<sup>3</sup>:1960 ± 990/mm<sup>3</sup>, 720± 430/mm<sup>3</sup>:1060 ± 890/mm<sup>3</sup> & 850 ± 860/mm<sup>3</sup>:840 ± 280/mm<sup>3</sup>; for granulocytes 5980 ± 2150/mm<sup>3</sup>:7250 ± 4140/mm<sup>3</sup>, 4560 ± 1910/mm<sup>3</sup>:5950 ± 3120/mm<sup>3</sup> & 3750 ± 1830/mm<sup>3</sup>:5620 ± 2650/mm<sup>3</sup> respectively.

B/w yoga & non-yoga arms CD3+ % baseline & mid treatment difference presented t= -0.524; p= 0.303 while b/w baseline & post treatment gave t= 0.917; p= 0.185; for WBCs difference between baseline & mid treatment gave t= 0.280; p= 0.391 while between baseline & post treatment showed t= 0.995; p= 0.166; for lymphocytes difference between baseline & mid treatment gave t= -0.912; p= 0.186 whereas between baseline & post treatment provided t= -1.198; p= 0.123. For granulocytes, baseline & mid treatment difference gave t= 0.089; p= 0.560 while between baseline & post treatment showed t= 0.465; p= 0.291.

**Conclusion:** The initial results were promising in improving hematological parameters on addition of yoga intervention to the standard chemoradiation in cervical carcinoma patients. Thus, there will be a need to wait till the final report with bigger sample size is achieved.

**Key words:** Cervical cancer, chemoradiation, hemotological parameters

## MANAGEMENT OF METASTATIC BREAST CANCER THROUGH AYURVEDA - A CASE STUDY

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**Back Ground:** Metastatic breast cancer is breast cancer that has spread beyond the breast to other organs in the body (most often the bones, lungs, liver or brain). According to the American Cancer Society, an estimated 22 percent of people live at least five years after being diagnosed with stage 4 breast cancers. Since 5 year survival rate is only 22% in metastatic breast cancer in conventional treatment, people are looking towards other system of medicine for better prognosis.

**Methods:** A female patient aged about 55yrs, an operated case of ductal carcinoma of breast, post chemo & radio therapy, developed lung metastasis after 11yrs. This was confirmed by CECT Chest & Endobronchial biopsy (Poorly differentiated carcinoma). Patient was suggested to go for second line chemo therapy. This case we have managed with Ayurvedic Panchakarma treatment & Shamanaoushadhis (Palliative Ayurvedic oral medicines) without giving chemotherapy or without even giving any other conventional therapies. We have treated her with classical virechana twice, followed by vardhamana pippali rasayana & other rasayana oushadhis. Patient is under our treatment since 1 year & 2 months & she is still continuing.

**Results:** During the treatment duration twice PET CT scan was done (within the gap of 6 months), which showed stable disease. Symptomatic relief was present, appetite improved, throat irritation & cough was reduced & mainly there was no aggravation of the disease!!

Other important aspects in the PET CT scan



before & after treatment will be discussed in detail in the presentation.

**Conclusion:** Cancer is a complex disease. We cannot manage deadly disease cancer just by giving some anti-cancerous herbal drugs!! To break its complexity, we have to understand cancer based on Ayurvedic basic principles and treat accordingly. If done so even the metastatic cancers can also be managed successfully through Ayurveda.

**Keywords:** Metastatic cancer, Panchakarma, Shamanoushadha, PET CT.

## RELATIONSHIP OF SYMPTOM BURDEN AND QUALITY OF LIFE IMPAIRMENT IN HEAD & NECK CANCER PATIENTS UNDERGOING RADIOTHERAPY WITH PERCEPTIONS OF YOGA INTERVENTION

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**INTRODUCTION:** Psychological stress has been implicated in the onset and exacerbations of several autoimmune diseases including Cancer. Psychosocial factors have been associated with a higher cancer incidence in initially healthy people, poorer survival in patients diagnosed with cancer, and higher cancer mortality. The present study was aimed to see the relationship of symptom burden and quality of life impairment in head & neck cancer (HNC) patients undergoing radiotherapy with perceptions of yoga intervention.

**Methods:** The present study was a one-time survey conducted on 53 patients with HNC. The main outcome variables of the study were Symptom severity and burden which

was assessed by The MD Anderson Symptom inventory; Quality of life impairment by using European Organizations for Research and Treatment in Cancer H&N 35 questionnaire and survey questions were prepared and administered to elicit the perceptions of patients towards a yoga.

**RESULTS:** The mean age of study population was  $56.5 \pm 12.34$  years. Perceived benefit of Yoga among the yoga practitioners was 66 % and on the other hand perceived benefit of conventional treatment among non yoga practitioners was only 23%. The head and neck cancer patients performing yoga along with conventional treatment experienced significantly less distress as compared to the non-yoga practitioners. From this we infer that adding yoga to the conventional treatment can prove to be a useful adjunct.

**CONCLUSION:** The study has shown that the yoga practitioners experience less psychological distress as compared to the non-yoga practitioners and their perceived benefits were higher. Yoga also reinforced beliefs in conventional treatment and removed negativity regarding its side-effects. This may be probably useful in improving compliance to conventional treatment. Therefore, adding yoga to the conventional treatment can prove to be an important and useful adjunct.

## VERNONIA CINEREA REVERSES 5-FLUOROURACIL INDUCED ORAL MUCOSITIS IN MICE

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**Background:** Mucositis in gastro intestinal tract is the most common side effect in patients receiving 5-fluorouracil (5-FU) for cancers. *Vernonia cinerea* (VC) which is also



called as *sahadevi* is used in siddha medicine for treating drug induced mucositis. No prior publications are available on role of VC on chemotherapy induced mucositis,

**Aim:** To evaluate the protective activity of VC against 5-FU induced mucositis in tongue of mice.

**Method:** VC was freshly collected, shade dried and powdered coarsely. Crude aqueous extract (CE) of VC was prepared by cold maceration method. CE was further fractionated from non-polar to polar using different solvents. During the process, we obtained two fractions, Butanol (BF) and Aqueous (AF). A total of 30 male albino mice were divided into 5 groups of 6 animals each. Group 1 served as normal control. Mucositis was induced in groups 2-5 by administering a single dose of 5-fluorouracil (300 mg/kg, i.p.) on day 1. Group 2 served as mucositis control. Groups 3-5 received CE (400 mg/kg), BF (400mg/kg) and AF (400 mg/kg) respectively from day 1 to 6 orally. On day 7, all animals were sacrificed and tongue were collected. The tissues were processed by standard methods. Slides were prepared and hematoxylin and eosin staining was done. Epithelial thickness and mucositis scoring were assessed.

**Result:** 5- FU caused severe mucositis and reduction in tongue epithelial thickness. The CE, BF and AF significantly ( $<0.001$ ) reduced the mucositis which was evident by the reduction in mucositis score. The histology revealed that the extract and fractions equally increased the tongue epithelial thickness.

**Conclusion:** The results showed the therapeutic potential of VC against 5-FU induced mucositis of tongue.

**Keywords:** Chemotherapy, Mucositis, Vernonia cinerea,

**Acknowledgement:** SERB for financial support

## ROLE OF YOGA PRACTICES ON HUMAN ADAPTATION IN EXTREME ENVIRONMENTAL CONDITIONS

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**Background:** Humans travelling periodically to Antarctica undergo stress due to capsule environment and environmental conditions. Yoga, an ancient Indian system and way of life has been proven to alleviate stress and promote overall wellness. This study was designed with an objective to understand the role of yoga practices in facilitating human adaptation in extreme environmental conditions.

**Methods:** Twenty-five Members of age  $35 \pm 7.8$  years, screened negative for pre-existing psychological and pathological conditions and declared clinically healthy for the 35<sup>th</sup> Indian Scientific expedition to Antarctica were recruited for the study following obtaining written informed consent. A yoga module was designed and validated for administration during sea voyage and at Antarctica. The intervention was administered for one hour daily for 97 days consisting of sea voyage and stay at Antarctica. Psychological assessments for sleep quality and perseverative cognition were performed at the start and on completion of the expedition. Blood samples were collected at four timepoints: baseline, on reaching Antarctica, while departing from Bharati and before departing from Antarctica.



**Results:** A significant improvement in overall sleep quality, daytime dysfunction and perseverative cognition were observed in Yoga group. Whereas, control group subjects showed a contrasting change. A pattern of constant increase in lipid profile was noted in both the groups but yoga group had associated overexpressed cardio-protective genes. Less number of genes were consistently differentially regulated in the yoga group suggesting better efficiency.

**Conclusion:** Based on the results of this study, it appears that Yoga practices would be helpful in extreme environmental conditions and work uniquely on every individual based on their inherent constitution and facilitate efficient and optimal adaptation.

## NEW DATA ANALYSIS FOR YOGA MEDICINE STUDIES: VARIANCES DECREASE SIGNIFICANTLY

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This paper concerns an important new analysis of data in studies of Yoga medicine, and certain other systems of traditional medicine. It suggests that, in pre-post studies of such kinds of medical intervention, F tests of ratios of pre-variance to post-variance constitutes an equally important, and, if anything, more powerful test than 't' tests of changes in variable mean.

Most RCTs concern efficacy of a drug to change values of a biochemical marker. Studies of CAM interventions usually follow this kind of protocol, analysing study data as if the CAM intervention were a drug substitute. This is manifestly not the case, however. Yoga medicine interventions

improve medical conditions by eliminating underlying stress, meriting a different kind of numerical analysis. Biomedical drugs are designed to shift the value of a parameter in one direction: lowering high blood-sugar values in diabetes, or decreasing blood pressure in hypertension. Drugs to lower blood sugar must never be given for those with hypoglycaemia, nor drugs to lower blood pressure for hypotension.

In the case of Yoga medicine, similar Yoga treatments are given for those with hyper- and hypo-glycemia, and similarly for hyper- and hypo-tension. Several S-VYASA studies have found that groups of patients have higher variances than groups of healthy subjects. They have also shown that restoring health through IAYT narrows those distributions, reducing variances. Several studies of biomedical parameters, particularly SBP, DBP and Pulse Rate have observed this, also many studies of pranic energies by AcuGraph, since its first observation in 2013. A different mechanism is at work: large variances indicate poorer quality regulation of a variable. Reduced variance indicates restoration of quality of regulation, i.e. improvement of health, since poor quality regulation is an indicator of poor health.

In contrast to decreasing variances with AYUSH treatments, drug treatments tend to increase variances of patient distributions. Additional sources of variance cause increased variance, and with drug treatments, the initial variance of the patient distribution, will be increased by the extra variance due to variable patient response to drug treatment. AYUSH treatments and biomedical treatments are different, as we know. This new analysis demonstrates that.



## EFFECTS OF 10 WEEKS HATHA YOGA ON BRAIN STRUCTURE MEASURED BY STRUCTURAL MRI

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In a non randomised experimental study 102 participants were divided into one Yoga group, and two control groups. The participants were allowed to select their intervention group by themselves. Group one (n=39) performed Hatha-Yoga once a week for 90 min, as the active control (n=32) served students who were performing non aerobic sportive training once a week for 90 min, the other control group (n=31) didn't change their daily life style. The participants of the active groups have not been performing any mind-body-intervention respectevly this kind of sports before. The study period was 10 weeks. The mean age was 22 years, most of them were studying medicine at Saarland University. The mean age was 22,3 years. 75 females and 27 males were participating.

Before and after the interventions there was done a high resolution MRI with a 3 Tesla machine. The pictures were analysed by the SPM8 program.

Before the intervention the hippocampal density in the Yoga group was  $0,44\text{mm}^3$  versus  $0,59\text{mm}^3$  in both control groups. After the intervention the hippocampal density, in contrast the other groups, significantly increased ( $p=0,036$ ) in the yoga group.

The hippocampal area is associated to memory and learning functions, as well as emotional regulation and boosting adult neurogenesis. It is known that in various neurodegenerative or neuropsychiatric diseases like dementia,

posttraumatic stress disorder, schizophrenia, depression, addiction related deseases and long lasting stress the volume and density of the hippocampal area is reduced. Studies have shown that decrease of stress is associated with increase of hippocampal density.

The significant increase of the hippocampal area after the Yoga intervention therefore can be explained by the fact that Yoga is a factor in improving stress management, as many other studies already have shown.

It is more difficult to explain, why the participants who have freely chosen the Yoga group have a significantly lower density of the hippocampal area already at the beginning of the study. A possible explanation could be that these participants unconsciously choose Yoga because they had more stress in the past or more difficulties in stress management than the other participants.



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*Abstracts*  
Posters



# 22<sup>nd</sup> INCOFYRA

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PAPER ID: 03

## EFFECT OF MANTRA CHANTING AND MEDITATION ON COMPASSION AND HUMAN SUBTLE ENERGY PATTERN

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### Background

Compassion is an inherent human capacity which influences our psychic and psychological function. Compassion is invoked by Chanting and Meditation. *Arutperunjothi Maha Mantra* intends to invoke compassion. This study was conducted to evaluate the effect of this *mantra* on compassion and human subtle energy variables, measured using Electro Photonic Imaging technique.

### Methods

In this study 90 participants of both gender, mean age 46.69±13.43 years had participated. Data from 47 subjects were analysed after the study. Chanting group chanted *Arutperunjothi Maha Mantra* 108 times and meditation group meditated on *Arutperunjothi Maha Mantra*, for 48 days (45 min/day). Assessments for Subtle Energy were done 1st day prior to intervention, after immediate intervention and on the last day after intervention by using Electro photonic Imaging Technique. Assessments for validating Compassion level were done 1st day prior to intervention and on the last day after intervention by using Self Compassion scale, Positive and Negative Affect Scale and Emotion Regulation Questionnaires.

### Results

Result showed that Chanting influenced

the bio-energy pattern immediately than Meditation. Meditation influenced the *Ajna Chakra* more than Chanting. Long-term interventions of 45 days of both Chanting and Meditation influenced significantly ( $p < 0.05$ ) both the bio-energy levels and self reported questionnaires.

### Conclusion

Findings show that Chanting as well as Meditation on *Arutperunjothi Maha Mantra* may play a significant role in modifying the bio-energy pattern along with psychophysiological parameters including various derived parameters of organs and chakras. Self compassion, emotion regulation, and positive affect were also influenced positively.

### Keywords

Compassion, Electro photonic Imaging, *Arutperunjothi Maha Mantra*, Chanting, Meditation

PAPER ID: 04

## EFFECT OF LOTUS POSTURE ON ACUPUNCTURE MERIDIAN ENERGIES: A CONTROLLED TRIAL

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**Background:** Many studies have assessed Yoga practices using instruments such as AcuGraph, which measures conductance at Jing-Well points of acupuncture meridians. Such studies find that participation in Yoga programmes ranging from a weekend to many months systematically increase subtle energy. Here we report comparison of Jing-Well point conductance before and after sitting in Lotus Posture with those before and after sitting in a chair.



**Methods:** This was a controlled study conducted on 52 male Yoga practitioners, (mean age in years  $23.03 \pm 3.23$ ), all with more than one year's experience of Yoga practices. Participants were alternately assigned into two groups, sitting in Lotus Posture, and sitting in a chair. Each was measured on three successive days, before and after sitting as instructed for periods of 10 minutes on the first day, 20 minutes on the second day, and 30 minutes on the third day.

**Results:** The two groups yielded completely different results: Those sitting in Lotus for 30 mins showed increases in subtle energy levels in all acupuncture meridians; chair sitting produced universal decreases. Results for 10 minutes and 20 minutes showed how these changes in energy values took time to build up with increasing time.

**Conclusions:** Sitting in Lotus Posture is held to strongly stimulate subtle energy levels, so results agreed with the experimental hypothesis. Nevertheless, decreases in energy levels of those sitting in a chair were surprising, since rest might be expected to have no effect.

**Keywords:** Yoga, Asanas, Lotus Position, Acupuncture meridian Energies, AcuGraph

PAPER ID: 05

## AN INDIVIDUAL YOGA PROTOCOL FOR A TYPE2 DIABETIC: A CASE STUDY

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### Background

Along with type2 diabetes, the diabetics may have some other medical problems which need to be attended. An individual protocol

was used to get prompt and better results. Keeping in view the other medical problems, an individual protocol was administered.

### Methods

It was a mixed method. After taking the pre-data, the subject was administered the yoga protocol for about a year, with changes in between the sessions, according to his need. Post data was taken after one year. HbA1c was measured twice. Video of his practice and his interview were also taken.

### Results

There is a significant positive change in HbA1c level and also an improvement in other areas.

### Conclusion

An individual protocol is beneficial for a type2 diabetic for prompt improvement.

### Key words

Individual protocol, HbA1c

PAPER ID: 06

## PILOT STUDY TO DESIGN AND EVALUATE BMP (BODY MIND PROGRAMMING) BASED YOGA SESSION FOR THE PATIENTS AND THEIR CAREGIVERS FOR THE INTEGRATIVE ONCOLOGY DEPARTMENT

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### Background

Integrative Oncology Department of a leading hospital in Bangalore invited us to design and conduct Yoga sessions for the patients and their care givers in the hospital premises with the main objective of improving their quality



of life, feeling mentally and emotionally more relaxed, to change the mind set from suffering and worrying to feeling good, and positive . Our interactions with the hospital staff and patients revealed many unique challenges in designing and conducting the sessions and evaluating their usefulness.

New people joining every session and they will have generally no prior knowledge of Yoga. Many patients do not feel very comfortable to sit on the Yoga mat on the floor, as the patients are undergoing treatments like chemotherapy, radiation, surgery etc and may not be very comfortable in doing asanas and physical exercises needed in the yoga sessions.

### Method

Keeping in view the above challenges and objective, we worked out the guidelines based on which we designed the Yoga Session and conducted more than 50 sessions for the patients and the care-givers accompanying them, and obtained feedback with the help of the hospital HOD of Psychiatry who designed the scale and format for collecting the feedback information. The concerned people were trained about the scale and evaluation procedure. Total 107 ( 43 patients and 64 caregivers) people attended the sessions and 74 ( 32 patients and 42 caregivers) gave the feedback.

A special 90 minutes module based on BMP( Body Mind Programming) was developed by the authors and named as Heart - Mind Yoga session. Heart - Mind Yoga is based on Heart - Mind Synchronisation, considering two way communication between heart and brain, inbuilt intelligence of the heart etc. The aim was to produce a coherence state in which our body and brain work better, we feel better and perform better.

### Results

All the people who attended the sessions liked it and felt relaxed and better and felt that it would help them in their treatment. 78% of patients rated 4 & 5 on the scale 0 - 5 conveying that sessions were highly useful.

### Conclusion

Yoga sessions for Oncology patients in the hospital environment require specially designed Yoga modules for producing positive emotions and help in pain relief. There is a need to train the medical staff - doctors , nurses, attenders, physiotherapists etc in these Yoga Modules in the hospitals to take the Integrative Oncology further for improving the quality of health (wellness) services. Heart-Mind approach to wellness is quite beneficial and requires further research studies to take it forward.

### Key words

Heart - Mind Yoga, BMP ( Body Mind Programming), Coherence state, Heart - Mind Synchronisation, Intelligent Heart (Neuro Cardiology), Integrative Oncology.

### PAPER ID: 07

## SUBTLE ENERGY SYSTEM OF HUMAN BODY BASED ON ENERGY MODEL OF YOGA AND TRADITIONAL CHINESE MEDICINE

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**Background:** Subtle energy system of human body is explained in two eastern philosophies. In Yoga it is explained through *nāḍī*, *chakra* and *prāṇa*. The same concept is depicted in Traditional Chinese Medicine (TCM) as Qi, meridian and dantian. The aim of the study



is to understand the subtle energy system of human body using an energy model based on Yoga and TCM.

**Methods:** Traditional texts such as Upanishads, Classical Yoga along with TCM texts were studied to provide a fuller understanding of the human body's subtle energy system based on *nāḍī*, meridian, *chakra*, dantian, *prāṇa* and Qi.

**Results:** Fourteen prominent *nāḍīs* are identified by *Upaniṣats* and major *Yoga* texts. TCM also recognises 14 main meridians. *Nādis* connect to higher centres in the head and the 'gates' of our body. In TCM, meridians originate or terminate from head region, hand and feet which are close to *nādis* points. Yoga and TCM identify *chakra* and dantian as energy centres, located in the same place, from where *prāṇa* or Qi energy is stored and transported in the body.

**Conclusion:** Thus, *nādis* and meridians are close to three *chakra* groups or three dantians. *Chakras* and dantians are energy centres. Both share a similar function to move *prāṇa* or Qi energy through subtle channel of *nāḍīs* or meridian. *Prāṇa* or Qi is the fundamental energy in the human subtle energy system recognised by Yoga and TCM.

**Key words:** *Nāḍī*, dantian, *chakra*, Qi, *prāṇa*

PAPER ID: 08

## INFLUENCE OF PYRAMIDAL ENERGY AND LUNAR DAYS ON GERMINATION OF GREEN GRAM SEEDS

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**Background:** Pyramid is a structure whose outer surfaces are triangular and converge to

a single point at the top, According to Greek word PYRO means fire or light and mid means center. It is in conical shape which is connected to the energy, comes from cosmos and underground. Lunar days also called *tithi* in *sanskrit*. Which comprises 30 days, out of which first 15 days is called as *shukla paksha* and another 15 days is called as *krishna paksha*. Which are differentiate by 15<sup>th</sup> day.

**Materials and Method:** In this experiment two types of pyramid were used with control, plywood pyramid and copper pyramid with each of two sizes 13.5 cm×13.5 cm×10.5 cm and 20 cm×20 cm×15.5 cm to see the effect on germination of green gram seeds. Sample size was 600 seeds with 15 replications and each replication were 40 seeds. For lunar days effect size of sample was taken as 40 seeds for each *tithi*. Each sample seeds were soaked on sunrise time of *chaitra masah*.

**Result and Conclusion:** The present study on variables of germination of green gram seeds found that pyramid is more effective than control on % of germination, mean radical length, fresh weight but not on oven dry weight. Copper pyramid had more influence on mean radical length and fresh weight. Big size of pyramids had more effective on germination of seeds compared to small size of pyramids. In lunar days first half of *shukla paksha* and second half of *krishna paksha* was more effect on germination of seeds.

**Keywords:** Pyramid, Germination, Fresh weight, Oven dry weight, Radical length, *Tithi*.



PAPER ID: 09

## GERMINATION OF FENUGREEK SEEDS WITH INFLUENCE OF SUBTLE ENERGY OF SRIYANTRA AND LUNAR DAYS

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**Background:** In *tantric* text *yantra* is a geometric diagram, which drawn on a paper and metal for worship or *upasana* for attain a *siddhi* and *yogis* use as aid to meditation. Lunar days are the length of time it takes for the moon to make one complete rotation on its axis compared to the sun. According to Hindu calendar lunar day called as *tithis* and 30 days in lunar month.

**Material and Method:** In this study *pancha loha sriyantra* and paper *sriyantra* of two different sizes 23 cm x 23 cm and 15 cm x 15 cm were used as an intervention to see the effect on germination of fenugreek seeds along with control. Sample size was 600 seeds with 15 replications of 40 seeds in each replication. To study the effect of lunar day on germination of seeds, size of sample was 40 seeds. Samples are soaked at sunrise time on each *tithis* of *chaitra masa*.

**Results and Conclusion:** The present study showed *sriyantra* was more effective than control on % of germination, mean radical length, fresh weight and oven dry weight on fenugreek seeds. Paper *sriyantra* was more effective on % of germination, mean radical length and oven dry weight than *pancha loha sriyantra*. *Pancha loha sriyantra* was more effective on fresh weight than Paper *sriyantra*. Bigger size *sriyantra* was more effective on % of germination, mean radical length and fresh weight. In the lunar days investigation found that at *shukla paksha pratipat* and *dvitiya* at first phase was more effective, at *krishan*

*paksha shashthi* the middle phase was more effective.

**Key words:** Germination, Radical length, Fresh weight, Oven dry weight, *Sriyantra*, *Tithi*

PAPER ID: 10

## ROLE OF YOGA IN PAIN MANAGEMENT

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Palliative care is specialized medical care for people with serious illness. This type of care is focused on providing relief from the symptoms and stress of a serious illness. The goal is to improve quality of life for both the patient and the family.

Ayurveda defines pain or disease as follows:

“Tad dukha samyogaa vyaadhaya uchyante”  
(Ref - Sushruta Sutra 1/23)

“Dukham kaaya vaak maanasee peedaa, vividham dukham aadadhaati iti vyaadhihi”  
(Dalhana)

Vyadhi means any difficulty which prevents a human to lead his normal life. Cancer is nothing but uncontrolled multiplication of bodies own cells.

Yoga advises a healthy life-style, based on *saatwik* diet and a routine which is patient specific. Yoga believes each cell is a microcosm of the universe. At the subtle level everyone is the same. Depending on the constitution and disease condition, patient specific *asanas* and *pranayamas* can be practiced.

Pain management - Our sense organs inform us the problem of the affected area, to draw attention, mainly by pain impulse. These sense organs are controlled by *Manas*(mind) and the Mind is controlled by *Praana*, the



vital force. So asana practices with awareness of Praana, Praanayama and Meditation can effectively manage such conditions. They play a vital role in the prevention and management of non-communicable diseases or lifestyle disorders. Relaxation techniques used in yoga, can be used even in acute pain management (e.g.: trauma conditions).

## Keywords

Yoga, Life-Style Disorders, Pain Management, Indriya-Mana-Praana relationship.

## PAPER ID: 11

### DOES WILLINGNESS TO EXERCISE AFFECT LEARNING, MEMORY AND MOTOR SKILLS?

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## Background

Cognition and motor skills both play a foundational *role* in the development of healthy perceptual, social life. Due to lack of exercise motor dysfunction and cognitive impairment is seen in young adults. Exercise is the bodily activity that enhances overall health hence nowadays aerobic exercise has emerged as a promising low-cost treatment to improve neurocognitive function. Hence this study was undertaken to study the effects of willingness to exercise affect cognition and motor skills.

## Methods

In this study the 150 students were given a self-prepared questionnaire which gives information about willingness to exercise or not. Among these students two groups were made based on inclusion and exclusion criteria each consisting 15 students. One group willing to exercise and other not willing to

exercise. Institutional ethical clearance was obtained. Every week a set of students were examined for learning, memory and motor skills by star mirror drawing apparatus, Recall and recognition test, Tweezer Dexterity test respectively.

## Results

The mean scores for the willingness to exercise group in recall-recognition and tweezer dexterity were higher. In star mirror tracing test the number of errors made by both the groups were same but standard deviation was less in willingness to exercise group (4.92) than in normal control group (10.25).

## Conclusion

Willingness to exercise improves learning, memory and motor skills and hence further research with larger sample to be done to know the effect of willingness to exercise on cognition and motor skills.

## Key words

Tweezer dexterity, recall-recognition, star mirror tracing, exercise.

## PAPER ID: 13

### IMPACT OF SELECTED YOGIC PRACTICES AND PHYSICAL FITNESS COMPONENTS ON COLLEGE FOOTBALL PLAYERS

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## Background

Yoga is one of the ancient Indian forms of conditioning practice which improves



overall health of an individual who practices it. Physical fitness training is useful in rising definite aspects of health related physical fitness like flexibility, strength, endurance, balance and rhythm. The players become physically fit and psychologically strong by doing regular practice of yoga. Yoga also helps in relaxation after doing strenuous of training. Yogic practices reduce anxiety level in the players.

### Methods

Eighty two male football players divided randomly into Treatment and control group with the age range from 18-24 years. Each player underwent the following series of physical fitness performance tests: Muscular Strength, Muscular Endurance, Cardiovascular Endurance, Body Mass Composition and Flexibility before and after study period.

### Results

Significant pre-post improvements were seen in the treatment group in the variables Muscular Strength (MS) ( $p < 0.001$ ), Sit up ( $p < 0.001$ ), Physical Efficiency Index (PEI) ( $p < 0.001$ ), Body Mass Index (BMI) ( $p = 0.041$ ), Sit and Reach (SR) ( $p < 0.001$ ). The Control group showed within group improvement only in Sit and Reach ( $p = 0.042$ ) significant.

### Conclusions

The short time training program of yogic practices along with fitness exercises is helpful in improving health related physical fitness components of football players.

### Keywords

Yoga, Physical Fitness Components.

PAPER ID: 15

## MUSIC RECEPTIVITY: A MEASURE OF INTERNALIZATION OF MUSIC

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*Music Perception* is all about perceiving the features of *music* and music is created with the sole purpose of perceiving and enjoying it as music, and the two concepts can't be defined independently of the other. In this study, we focus on how and to what extent an individual internalizes a given piece of music. To this end, we propose a construct called *Music Receptivity*. The differential ability, interest and the emotional experiences that an individual experience to a given piece of music as measured at that point of time, is defined as the Music Receptivity of that individual to that piece of music. Music Perception and Music Receptivity are the opposite ends of a continuum. We propose a self-report tool, Music Receptivity Scale that would measure the Music Receptivity or Internalization level of an individual to a given piece of Music, as 'a state measure' and this would be a self-report tool which can measure the Internalization level as well as 'a rough estimate' of the subjective experiences of an individual to any given piece of Music. Music Receptivity Scale would essentially be a feedback tool for the Music Therapist, which could be used for continual assessment of patient's response to Music Therapy and to manage client database which would facilitate the therapist to administer customized music interventions to an individual or a select group of individuals.

**Keywords:** Music Perception. Music



Receptivity. Music Therapy.

Subject Area: Music Psychology,  
Psychometrics

**PAPER ID: 17**

## **A RETROSPECTIVE COHORT STUDY: TO EVALUATE THE EFFICACY OF BLOOD PRESSURE MANAGEMENT PROGRAM IN THE REDUCTION OF ESSENTIAL HYPERTENSION**

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### **Background:**

Hypertension is reported to be the fourth contributor to premature death in developed countries and seventh in developing countries. The prevalence of hypertension in last six decades has increased from 2% - 25% among urban residents and from 2% - 15% among the rural residents in India. Hence, this study intends to evaluate the efficacy of Blood Pressure Management Program in essential hypertensive patients retrospectively.

### **Methods:**

The study was carried out on 47 patients [Mean age: 50(±11) years and SBP/DBP: ≥ 130/90 mmHg] after screening 98 hypertensive patients from all over Maharashtra retrospectively. The patients were already on prescribed concomitant medications. Blood Pressure Management Program consisting of panchkarma procedures namely whole body snehana (external oleation) and swedana (passive heat therapy) with Shirodhara was given to the patients, which was completed in 15 sittings. Assessment of the effect of treatment was done based on the

reduction in the systolic and diastolic blood pressure of the patient at the end of 12-week follow up as compared to the baseline.

### **Results:**

In 47 patients [Mean age: 50(±11) years], SBP (Systolic Blood Pressure) was reduced by 13.41% [from 151.02(±17.31) mmHg to 130.766(±12.67) mmHg (p<0.05)] and DBP (Diastolic Blood Pressure) by 13.21% [from 95.14(±6.38) mmHg to 82.57(±7.56) mmHg (p<0.05)] at end of the 12-week follow up as compared to the 1<sup>st</sup> week. BMI was reduced by 2.20% [from 27.68(±3.73) kg/m<sup>2</sup> to 27.07(±3.68) kg/m<sup>2</sup> (p=0.012)].

### **Conclusion:**

In this retrospective study, Blood Pressure Management Program showed statistical reduction in SBP & DBP in essential hypertensive patients.

### **Keywords:**

Panchakarma therapy, HbA1c, Type II Diabetes, low carb diet.

**PAPER ID: 18**

## **EFFICACY OF COMPREHENSIVE DIABETES CARE PLUS PROGRAM WITH THE REDUCTION OF HbA1C IN TYPE II DIABETES MELLITUS PATIENTS: A RETROSPECTIVE STUDY**

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### **Background:**

According to Stratton IM, et al., 1% decrease in HbA1c is associated with a large reduction



in complications like microvascular complications, death related to diabetes etc. Hence, this study intends to evaluate the efficacy of Comprehensive Diabetes Care Plus Program with the reduction of HbA1c in Type II Diabetes Mellitus Patients retrospectively.

#### Methods:

Retrospective study was carried out on 52 patients [Mean Age(SD) = 54(±12) years and HbA1c ≥ 7%] after screening 149 type II diabetic patients from all over Maharashtra. The patients were already on prescribed concomitant medication. Comprehensive Diabetic Care Plus Program consisting of panchkarma procedures namely snehana(external oleation), swedana(passive heat therapy) and basti(Per rectal drug administration) were given to the patients, which was completed in 15 sittings. During the therapy and next 90 days, the patients followed Prameha Diet Kit consisting of low carbohydrate, moderate protein & low fat ingredient. The primary endpoint of this study was the evaluation of reduction in HbA1c at the end of the follow-up after 90 days.

#### Results:

In 52 patients, HbA1c was reduced by 1.84% [from 9.07(±1.58) to 7.23 (±0.99) (p<0.05)]. Also, BMI, systolic blood pressure and diastolic blood pressure change was statistically significant [from 28.49(±4.88) kg/m<sup>2</sup> to 26.65(±4.16) kg/m<sup>2</sup>, (from 135(±15.98) mmHg to 121(±13.78) mmHg, (from 81(±8.69) mmHg to 76(±8.01) mmHg, (p<0.05).

**Conclusion:** The study result highlights not only the reduction in blood sugar levels and BMI, but also in the in the Systolic and Diastolic blood pressure.

**Keywords:** Panchakarma therapy, HbA1c, Type II Diabetes, low carb diet.

PAPER ID: 22

## PREVENTION OF CANCER:ROLE OF DIET,LIFESTYLE MODIFICATION & PHYSICAL EXERCISE

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#### INTRODUCTION:

*Cancer* is the second highest prevalent disease today. According to the statistics around 90% is result of modern lifestyle, diet and sedentary habits.

Diet is what we eat, including the quantity, selection of food, mode of preparation, time of having food. Life style includes our working pattern involving sleep, habits, addictions, exposure to occupational and environmental toxins. Changes in diet and lifestyle initiate accumulation of toxins in the body laying foundation to many diseases one among which is cancer. Lack of sleep tends to cause impairment in normal physiological functions resulting in overweight, increasing stress levels which in turn causes impaired immunity. Habits like smoking, chewing tobacco have direct effect on related organs and systems creating low immunity. Change in diet and lifestyle modifications along with changes in the above mentioned factors can prevent the manifestation of cancer in an individual.

Mental health is also important, as it directly depends on positive attitude, which can be achieved by following *Achara Rasayana* and techniques of meditations.

Physical exercise boosts the production of microphages, cells that attack infections. It



also increases the circulation of many cells in our body that help removal of viruses & harmful bacteria.

## CONCLUSION:

A healthy diet, lifestyle modification are the key factors which help to lower cancer risk.

Key words-Diet, Exercise, Stress, Awareness

## PAPER ID: 24

### INTEGRATING YOGA INTO CANCER CARE: AN EXPERIENTIAL ACCOUNT

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Integrative oncology is an evolving evidence-based approach that uses palliative care and complementary therapies along with the conventional cancer treatment modalities, early in the course of illness to achieve management of symptoms, improvement of physical functioning, emotional functioning and quality of life. Although there is an increasing demand for the use of Complementary and alternative medicine (CAM) interventions by the cancer patients, referral to yoga by the medical community remains low due to limited understanding of the scope and benefits of CAM. Therefore, it is essential to advocate for the role of CAM in patients with cancer. Furthermore, there are no structured guidelines available to achieve this integration. This paper would like to expound an exemplar model of integrated CAM services and elucidate experiential account of this service rendered from 2010 to 2015 at HCG, Bangalore.

The purpose is to familiarize doctors and nurses about the use and ways of integrating yoga into cancer care. The model comprised of a structured referral pathway; applications of yoga therapy in various treatment modalities of cancer; Yoga DVD containing practices that are safe for particular type of cancer and the home practice; training programs to educate about the types and benefits of yoga to health care professionals, yoga based stress management sessions for the hospital staff to combat their burn-out and experience the effects of yoga.

This initiative improved communication between the CAM and conventional health care professionals owing to improved referral of patients to avail yoga services which otherwise used to be only due to patient's personal interest in CAM. Moreover, a survey study showed that integrative oncology interventions of which Yoga is a vital component improved symptoms, family communication, effective end of life care and continuity of care.

**Key words:** CAM, Yoga, Cancer, Integrative Oncology.

## PAPER ID: 28

### EFFECT OF YOGA ON STATIC AND DYNAMIC BALANCE IN CHILDREN WITH VISUAL IMPAIRMENT

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## Background

Balance is maintained, controlled, and monitored integrated proprioceptive, vestibular, and visual sensations, and the



somatosensory system. Absence of vision affects neural control of body, reduces the ability to maintain balance and causes frequent injuries including falls. Yoga's multi-dimensional benefits may help to improve the ability to handle many of their challenges.

### Methods

Eighty-three children with aged 9-16 years were enrolled by convenience sampling. They were divided into two groups: yoga (n = 41) and control (n = 42). The yoga group participated in one hour of yoga practice, five days per week, for 16-weeks while the control group followed their regular activities. Both the static and dynamic balance were assessed for the both groups pre and post the 16-week intervention.

### Results

Significant within group improvement was observed in yoga group for all comparisons of Dynamic balance; the movements towards left region ( $p < 0.001$ ), right region ( $p < 0.001$ ) and both region together ( $p < 0.001$ ) and in trials at 30 secs ( $p = 0.009$ ) and 40 secs ( $p = 0.018$ ) but not 20 secs ( $p = 0.128$ ) of static balance. In Contrast, control group showed no significant within group improvement for any dynamic balance or static balance test comparisons ( $p > 0.05$ ).

### Conclusion:

The study suggests that yoga have considerable benefits for improvement of balance in children with visual impairment and may be recommended as an effective, alternative, inexpensive low risk training activity option for them.

### Keywords

Yoga, Dynamic Balance, Static Balance, Visual impairment, Children

PAPER ID: 29

## EFFECT OF YOGA IN PSYCHOLOGICAL CHANGES AND COGNITIVE FUNCTION ON THE CHILDREN LIVING IN THE ORPHANAGE

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### Background-

Children below the age of 18 years and have lost both or single parents are considered as an orphan. There are 143 million orphan children worldwide. In India the number of the orphan children approximately is 55 million. It is found that orphan children have more psychological distress; depressive disorder, hopelessness, vegetative symptoms, and suicidal ideation than normal children or non-orphan children.

Yoga will help one to reach a state, free from mental illness. It maintains and improves the positive value from the orphans.

### Method-

In 40 male volunteers the effect of yoga and physical exercise was studied on Emotion Regulation and Positive and Negative Attitude. All participants were assessed before and after yoga and Physical exercise practiced for 4 weeks, everyday, 1 hours per day. Sections of the Positive and Negative Affect Schedule (PANAS) were used to assess Positive and Negative Attitude associate and Emotion Regulation was assessed using Emotion Regulation Questionnaire (youth).

### Result-

The baseline was matched for the both variables. In between group comparison no change was observed for both the variables PANAS +ve ( $p=.012$ ), PANAS -ve ( $p=.231$ ),



ER (p=.292), CR (p=.260), Total (p=.409), Within group comparison did not exhibit any significant improvement for the both groups but the percentage of changes were higher for both the variables in yoga group PANAS +ve (p=17.36%), PANAS -ve (p=10.29%), ER (2.19%), CR (7.94%), Total (3.09%), as compared to control group PANAS +ve (12.73%), PANAS -ve (6.25%), ER (14.95%), CR (8.01%), Total (5.93%), respectively.

### Conclusion-

This study suggested that yoga may be effective in promoting the psychological and cognitive health of orphans and adolescents.

### Keyword

Orphan, Positive and Negative attitude, Emotional Regulation, yoga and physical exercise.

### PAPER ID: 31

## EFFECT OF YOGA ON MINDFULNESS AND IMPULSIVENESS IN CHILDREN WITH VISUAL IMPAIRMENT: A RANDOMIZED CONTROL TRIAL

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### Background-

Globally there are 19 million child aged below 15 years, have childhood visual impairment. Visual impairment is considered as the lack of eye function. Childhood loss vision affected their physical, mental, psychological health and quality of the life. Practicing yoga improves the quality of life and maintain the psychophysiological health.

### Methods-

In 40 male volunteers the effect of yoga was studied on impulsiveness and mindfulness. All participants were assessed before and after yoga practiced for 25 days, everyday, 1 hours per day. Sections of the Children's assessment of mindfulness (CAMM) were used to assess; impulsiveness associate and impulsiveness was assessed using Barrett's impulsivity scale (BIS-BRIEF).

### RESULT-

The baseline was matched for the both variables. In between group comparison no change was observed for both the variables, mindfulness (p=.236), and impulsiveness (p=.113). Within group comparison did not exhibit any significant improvement for the both groups but the percentage of changes was higher for both the variable in yoga group, impulsiveness (8.08%), mindfulness (11.55%), as compared to control group, impulsiveness (0.89%), and mindfulness (4.51%) respectively.

### CONCLUSION-

The study suggests that yoga may be considered an effective option to improve mindfulness and impulsiveness scores positively in children with visual impairment.

### KEYWORDS-

Visual impairment, impulsiveness, mindfulness, yoga, children



PAPER ID: 32

## COMPARED THE SURYA NAMASKARA AND CIRCUIT TRAINING ON MUSCULAR AND CARDIOVASCULAR ENDURANCE IN HIGH SCHOOL CHILDREN

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### BACKGROUND

Regular practice of Suryanamaskar significantly increases vagal tone and decreases sympathetic activity, vital capacity, resting heart rate, improve fitness and develops self-confidence. The practice of circuit training also well documented in the literature. This study compare the Suryanamaskar and circuit training on muscles endurance and cardiovascular endurance.

### METHOD

In 48 male volunteers, aged 13 to 15 were compared on suryanamaskar (n=24) and circuit training (n=24) measuring muscles endurance and cardiovascular endurance. Both the groups were assessed before and after receiving the intervention for 25 days, daily, 30 minutes per day. Sit-up and Coper test were used to measure muscles endurance and cardiovascular endurance respectively.

### RESULT

Baseline was matched for both the groups. In between group comparison a difference was observed in cardiovascular endurance but not in muscles endurance. In within group comparison both the groups showed significant improvement in both the tests but the percentage of change was higher in suryanamaskar group as compared to circuit training group+ for both the tests.

### CONCLUSION-

This present study is suggested that yoga (surya namaskara) may be a better option to promote the physical health of adolescent.

### KEYWORD-

School children, setup, muscular, Surya Namaskara, circuit Training.

PAPER ID: 33

## ROLE OF "AGNIHOTRA – SAUMANASASYA DATA" IN TACKLING PSYCHOLOGICAL FACTORS IN CANCER

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*Agnihotra* is a simplest form of Yajnya which is used as an instrument for purification of environment and create positive energy. Agni is said to be the one which brings harmony tranquility of mind. To be called as a healthy person, according to *Ayurveda* one needs equilibrium of Dosha, Dhatu, Mala, Agni and tranquility of Atma, Indriya and Manas. Body elements can be taken care by diet, physical exercise etc. To bring tranquility of the psychological factors Satvavajaya Chikitsa is mentioned. Performing Agnihotra helps one to stabilize the mind and hence get rid of the stress and thus in turn stay calm and balanced.

Agni is said to be Gruhapati, the one which takes care of the whole household. Performing Agnihotra brings tranquility of mind. It helps to improve positivity, reduce stress. This can be adopted as a *Sadvrutta* which helps for personal as well as social welfare.

To perform Agnihotra there is no bar of



gender, religion, cast, creed, socio-economic standard or any other factors. A pyramid shaped copper pot of specific dimension, Cow dung cakes, Whole grain, uncooked rice smeared with Cow's ghee, Specific Mantras and Specific timings (local Sun rise and Sun set) are the mere requirements to perform Agnihotra which hardly takes few minutes.

Recent studies in Oncology have shown that, spirituality helps for distressing and better quality of life regardless of life threat.

**Key words:** Agnihotra, Ayurveda, Sadvrutta, tranquility of mind, distress.

**PAPER ID: 34**

## **GERMINATION OF GREEN GRAM SEEDS WITH THE INFLUENCE OF GAYATRI MANTRA**

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### **Background**

Earlier study had shown that mrutunjaya mantra influenced to significant growth of germination of seeds. The gayatri mantra has been chronicled in the Rig Veda. It is addressed to the immanent and transcendent divine which has been given the name 'Savita,' meaning 'that from which all this is born.' The gayatri may be considered as having three parts - (i) Adoration (ii) Meditation (iii) Prayer. In the present research influence of gayatri mantra on germination of green gram seeds was studied.

### **Methods**

Sample size of 480 seeds was taken for the study. Germination test was conducted for two days after soaking the seeds for six hours. Gayatri mantra was chanted for 108 times at

sunrise and sunset time by female voice to know its effect on the germination of seeds.

### **Results**

There was significant increase in the germination of seeds and increase in percentage of germination and fresh weight of germinated seeds.

### **Conclusion**

Chanting of gayatri mantra causes significant growth in the radical length and increases percentage of germination and fresh weight of geminated seeds.

### **Key words**

Gayatri mantra, germination of seeds, percentage of germination, radical length, fresh weight

**PAPER ID: 35**

## **STATE ANXIETY, MINDFULNESS AND HEART RATE VARIABILITY DYNAMICS IN HEALTHY ADULTS**

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### **Background**

Mindfulness has been conceptualized as the process of bringing attention and awareness to objects within the experience of the present moment. State anxiety is "a state in which an individual is unable to instigate a clear pattern of behaviour to remove or alter the event/object/interpretation that is threatening an existing goal. Heart rate variability (HRV) refers to beat to beat alterations in the heart rate and is associated with cardiac autonomic regulation. Adults are found to be facing the life style problems and this study aimed at understanding the relation between the



variables state anxiety, mindfulness and heart rate variability.

### Methods

Eighty three subjects were assessed using STAI, SMAAS and HRV measurements for this correlational study. There was no intervention, since our objective was to understand correlation between mindfulness, state anxiety and heart rate variability.

### Result

Results showed a significant high negative correlation between SMAAS and STAI. STAI and LF of HRV were positively correlated whereas SMAAS and LF are negatively correlated. There was a significant moderate negative correlation between STAI and HF, whereas SMAAS is positively correlated with HF.

### Conclusion

There was a significant moderate negative correlation between STAI and, whereas SMAAS is positively correlated with HF. And also, there was a significant moderate positive correlation between STAI and LF/HF ratio and negative correlation between SMAAS and LF/HF ratio.

### Key words

Mindfulness, state anxiety, heart rate variability.

PAPER ID: 37

## EFFECT OF INTEGRATED SHIRODHARA AND YOGA INTERVENTION ON CLINICAL SYMPTOMS, COGNITIVE FUNCTIONS AND SLEEP QUALITY OF PATIENTS SUFFERING FROM ANXIETY DISORDERS

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**Background:** Various studies have found yoga therapy to be useful in the management of anxiety disorders. Ayurveda texts describe usefulness of Shirodhara in relieving anxiety. Thus, present study was planned to assess the synergistic value of Shirodhara as an add-on to yoga therapy.

**Aim:** To study the effect of Integrated *Shirodhara (Takradhara)* and Yoga intervention on clinical symptoms, cognitive functions and sleep quality of patients suffering from anxiety disorders.

**Methodology:** Thirty adults (15 males) within the age range of  $29.66 \pm 6.63$  years, already diagnosed with Anxiety Disorder (AD) by a psychiatrist using DSM-5, and scoring 18 or above on the Hamilton Anxiety Rating Scale (HAM-A), were randomly divided into 2 groups: Yoga (YT) and Yoga + Ayurveda (YA). Assessments were done at baseline and after 1 week .YT group received integrated yoga- asanas, pranayama and meditation daily for 6 days, whereas YA group received Shirodhara (Takradhara) once daily as an add-on. Clinical symptoms were assessed using HAM-A, State and Trait Anxiety Inventory (STAI) , and Brief Psychiatric Rating Scale (BPRS) , cognitive functions using Stroop Colour-Word Test and Digit Letter Substitution Test (DLST) and



sleep quality using Sleep Rating Scale. Data was found to be normally distributed using Shapiro-Wilk test. Paired and independent samples t tests were applied using SPSS version 10.0 for within and between group comparisons respectively.

**Results:** Within group comparison revealed significant improvements in clinical symptoms, Stroop performance, DLST scores in both YT and YA groups. Between groups comparisons showed that performance in the Stroop neutral word task was significantly better in the YA group as compared to YT group. Also, the sleep quality scores were higher in the YA group. YA group had 10% reduced sleep latency, 11% increase in sleep hours, 11% reduction in sleep disturbances and 40% reduction in incidences of daytime sleep.

**Conclusion:** This pilot study revealed that Integrated Shirodhara and Yoga intervention was effective in improving executive memory and sleep quality in AD patients as compared to Yoga therapy alone. Larger sample size maybe required in future studies to confirm the findings.

**Key words:** *Shirodhara, Takradhara, anxiety disorder, anxiety, integrated yoga*

**PAPER ID: 38**

## **EFFECT OF NATUROPATHY TREATMENTS ON BLOOD GLUCOSE LEVEL IN TYPE 2 DIABETES**

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**Background:** According to WHO, the term

diabetes mellitus describes a metabolic disorder of multiple etiology characterized by chronic hyperglycemia with disturbances in carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action or both. Cold hip bath and Gastro-Hepatic pack are known to regulate blood circulation to abdominal viscera. The thermoregulatory changes on the abdominal viscera might influence the metabolic activity in the liver, resulting in reduction of fasting blood glucose levels. This study was designed with a hypothesis that the regulation of blood flow to the abdominal viscera might be beneficial in the management of diabetes.

**Materials and Methods:** Ten patients diagnosed with Diabetes Mellitus of age 18 to 70 years diagnosed since 2 to 40 years were recruited in the study. Cold hip bath and Gastro-Hepatic pack were administered as per the standard protocol for 20 minutes to the same individuals for minimum three days at two different time of the day: in the morning and evening. The subjects also underwent a control day when no intervention was administered. The order of intervention was randomized amongst the participants. The blood glucose levels were continuously monitored every 15 minutes for three days using Flash Glucose Monitoring patch. Statistical analysis was done using paired sample t-test with the use of Microsoft excel 2007.

**Results:** Results suggest that Cold Hip bath effectively decreased blood glucose levels during the intervention and the hypoglycemic effect was sustained up to 45 minutes. However, following Gastro-Hepatic pack, reduction in glucose levels were noted 30 minutes after completion of the intervention. No such change in glucose levels were observed on the control day.

**Conclusion:** We conclude that Cold-Hip bath and Gastro-Hepatic pack are effective in



decreasing the blood glucose levels in type 2 diabetes mellitus.

**Keywords:** Type 2 Diabetes Mellitus; Hip Bath; Gastro-Hepatic Pack; Blood glucose.

**PAPER ID: 39**

**IMMEDIATE EFFECTS OF MUD PACK TO ABDOMEN AND EYES ON BLOOD PRESSURE AND HEART RATE VARIABILITY IN HYPERTENSIVE INDIVIDUALS**

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**BACKGROUND:**

Mud pack is therapeutic application of mud in various generalised health conditions. Hypertension is defined as any one of the following: systolic blood pressure  $\geq 130$  mmHg, diastolic blood pressure  $\geq 80$  mmHg, taking antihypertensive medications. Chronic psychological distress has adverse cardiovascular consequences, in the causal linkage of depressive illness to heart disease, and in the probable causation of atherosclerosis and hypertension.

**Materials and Methods:** Twelve subjects of age range  $47.5 \pm 12.84$  years were recruited in the study. The subjects were administered mud pack to eyes and abdomen and cold wet pack to eyes and abdomen for 30 minutes. The order of intervention was randomised. Heart rate variability and blood pressure was assessed using polyrite (RMS biosystems, India) and Sphygmomanometer (Diamond, India) were assessed before and after the intervention. Kubios software (version:2.2) was used to extract data and time and frequency domain analysis were performed.

Within and between group analysis was performed using paired and independent samples t test respectively.

**Result:** The results suggest a significant reduction heart rate ( $p < 0.007$ ) and a significant increase in RR interval ( $p$ ) following mud pack to eyes and abdomen. No changes were seen following cold wet pack to eyes and abdomen.

**Conclusion:** Results if this study suggest that 30 minutes of mud pack to eyes and abdomen may be effective in reducing heart rate in patients with hypertension. An increase in RR intervals following mud pack to eyes indicates better relaxation to the heart.

**Key words:** Hypertension, mud pack, blood pressure.

**PAPER ID: 42**

**EFFECT OF LONG TERM COMMUNITY BASED YOGA THERAPY ON GLYCATED HEMOGLOBIN (HbA1c) AND PSYCHOLOGICAL PARAMETERS IN RURAL POPULATION - SINGLE GROUP PRE-POST DESIGN**

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**Background and Introduction**

Rural India is currently experiencing a magnanimous surge in lifestyle diseases such as diabetes mellitus, hypertension and ischemic heart disease. The shift in epidemiology from communicable diseases to non-communicable diseases indicates that the rural population is also at a high-risk for developing such diseases. This shift is due to the changing health behaviors. *Yogā* has been an effective intervention in the prevention and management of lifestyle related diseases



based on earlier studies.

## Methods

After awareness camp, 60 were interested to participate in daily one hour 100days community based *yogā* program. Intervention includes breathing and loosening practices, *suryanamaskār*, *āsanās*, *prānayāma*, relaxation, and meditation techniques. Along with regular awareness programs on health, Stress Management, Emotion culture, and diet by experts.

The single group Pre-Post design was used; assessments were done on 1st day, and on 100<sup>th</sup> day. HbA1c and psychological parameters (sleep quality, perceived stress scale, and Positive health) were assessed before and after intervention.

## Results

Out of 60 subjects 30 were male, with age range of 21-80 and mean age  $48 \pm 14.62$ .

There was significant reduction in HbA1c ( $6.19 \pm 1.37$  to  $5.66 \pm 0.85$ ), and improvement in Perceived Stress scale ( $26.78 \pm 3.13$  to  $19.86 \pm 4.05$ ), Sleep quality ( $16.82 \pm 2.77$  to  $8.18 \pm 1.34$ ), and Positive Health ( $19.72 \pm 2.58$  to  $2.42 \pm 1.51$ ).

## Conclusion

Present study shows that 100 days community based supervised yoga intervention may bring a positive change in HbA1c and psychological parameters. Furthermore it may help in prevention and management of lifestyle related disorders.

PAPER ID: 43

## ASSESSMENT OF DEPRESSION USING ELECTRO PHOTONIC IMAGING AND STUDY OF EFFECT OF INTEGRATED APPROACH OF YOGA THERAPY

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## Background

Depression has a negative impact on all aspects of an individual's life. Integrated Approach of Yoga Therapy is known to have a beneficial effect on a range of depressive symptoms. Attempt to understand the effect of Yoga on emotional regulation using Electro photonic imaging technique measures in depressed individuals were not made earlier. This information is important to assess stability of an intervention.

## Materials and Methods

In a one week residential yoga program depressive participants (n=75) were assessed on Center for Epidemiological Studies Depression Scale (CES-D).

## Results

The baseline data were not normally distributed. Wilcoxon's sum rank test showed significant in GDV parameters like Ajnachakra, Sahasrara chakra, Asymmetric Manipura chakra, Organ balance cerebral zone (cortex), Endocrine system energy hypothalamus, Endocrine system energy hypophysis (pituitary gland), and Questionnaire scores, which suggests that there was a significant reduction in the depressive mood after one week of an integrated approach to yoga therapy.



## Conclusions

The present study suggests that one week integrated Yoga therapy can improve the overall general well-being of subjects irrespective of their disease. Hence, daily practice of Yoga on regular basis will improve the quality of life. To conclude, Yoga could be prescribed as a supplement to conventional therapy of a psychosomatic disease. Yoga helps to remove the depressive mood. This study provides strong evidence for using GDV parameters and this technology process which is also named as Electro Photonic Imaging. This study helps to understand in a better way on depression parameter and to see the effect of IAYT in organ level by using GDV parameters.

**Keywords-** Yoga, IAYT, Gas Discharge Visualization, Depression, Electro photonic Imaging

## PAPER ID: 44

### EFFECT OF BL-13 (FEISHU), BL-14 (JUEYINSHU) AND BL-15(XINSHU) ON AUTONOMIC VARIABLES IN HYPERTENSIVE INDIVIDUALS

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## Background:

Acupuncture is acclaimed therapeutic significance in traditional Chinese system of medicine. BL-13 (Feishu), BL-14(Jueyinshu), BL-15 (Hsinshu) are alarm points for lung, pericardium and heart respectively. BL-13 (Feishu) is commonly used to treat neck pain, bronchitis, pneumonia, asthma and common cold. BL-14 (Jueyinshu) is commonly used in treating back pain, chest pain, pericardial

pain, hiccough, palpitation. BL-15 (Hsinshu) is commonly used in treating back pain, palpitations, cardiac arrhythmias, hysteria. These points correspond to the sympathetic supply of heart. There are studies on therapeutic application of BL-13 in chronic neck pain, allergic asthma and allergic rhinitis. Studies also indicate changes in heart rate variability and skin impedance following BL-13 stimulation with Acu-TENS. BL-13, BL-14, BL-15 are the back-shu points related to lung, pericardium and heart respectively that are involved in blood circulation. There are no studies showing the combined effect of BL-13, BL-14, BL-15 on heart rate variability and blood pressure. . Duration of 20minutes needling may not be sufficient in reducing blood pressure and heart rate variability with prolong needling or adding manipulation while needling as to be evaluated in reducing blood pressure and heart rate variability.

**Aim and objectives:** This study was designed to study the effect of BL-13, BL-14, BL-15 on Heart rate variability and blood pressure.

## Materials and Methods:

Ten hypertensive patients of age  $61.70 \pm 11.38$  years were recruited for the study. The subjects were administered needling on BL-13, BL-14, BL-15 acupuncture points for 20 minutes. Assessments for heart rate variability and blood pressure were performed before and immediately after the intervention. Within group analysis was performed using paired samples t test.

**Result:** Result of the study showed no significant changes in any of the variables

**Conclusion:** Needling on BL13, BL14, BL15 is not effective in reducing blood pressure and heart rate variability.

**Key words:** Acupuncture; Autonomic variables; Blood pressure.



PAPER ID: 45

## EFFECT OF YOGA AND NATUROPATHY ON ANTHROPOMETRIC MEASURES AND BLOOD PRESSURE IN OBESE INDIVIDUALS

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**Background:** World Health Organization (WHO) defines overweight and obesity as abnormal or excessive fat accumulation that may impair health. Salt (sodium chloride) attracts and hold water and causes fluid retention of the water. Though consumption of less salt reduces water and helps in reducing body weight and fasting is believed to reduce the accumulation of fat by utilizing it as a source of energy, there is a lack of study reporting the effect of combination of salt less naturopathic diet and lemon honey juice fasting in people with obesity. Thus this study helps in assessing the effect of yoga and naturopathy on obese individuals.

**Materials and Methods:** Data of anthropometric measures such as weight in kilograms, height in centimeters, body mass index in kg/m<sup>2</sup>, systolic and diastolic blood pressure in mm/Hg are taken from Manthena Sathyanarayana Raju Arogyalayam, Venkatapalam, Vijayawada of obese individuals without any comorbidities whose age was above 10 with the BMI above 25kg/m<sup>2</sup> who underwent yoga and naturopathy for 15 days.

**Results:** The result of the study showed a significant reduction in weight, BMI, systolic blood pressure and diastolic blood pressure in the study group. A similar reduction was observed both in male and female.

**Conclusion:** Result of the study suggests that yoga and naturopathic treatments helps in reducing BMI, systolic blood pressure and diastolic blood pressure in both male and female

**Key words:** Yoga, Naturopathy, BMI, Blood Pressure.

PAPER ID: 46

## EFFECT OF YOGA AND NATUROPATHY IN BLOOD GLUCOSE LEVEL ON TYPE 2 DIABETES MELLITUS

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**Background:** Diabetes mellitus is a metabolic disorder characterized by hyperglycaemia, glycosuria tendency to ketosis and liability to develop complications due to vascular degeneration. Salt (sodium chloride) attracts and hold water and causes fluid retention of the water. Though consumption of less salt reduces water and helps in reducing body weight, balance the metabolic function and fasting is believed to reduce the accumulation of fat by utilizing it as a source of energy and help to facilitate insulin secretion. There is a lack of study reporting the effect of combination salt less naturopathic diet and lemon honey juice fasting in people with diabetes mellitus. Thus this study helps in assessing the effect of yoga and naturopathy on diabetes mellitus individuals.

**Materials and Methods:**

Eighty Six patients of age 51.64±13.25 years and weight 81.22±16.99 kgs with type 2 diabetes mellitus and no associated



comorbidities were recruited for the study. Fasting and Post prandial blood glucose levels were assessed before and after the 15 days salt less diet intervention to diabetes mellitus patients at Manthena Sathyanarayana Raju Arogyalayam, Venkatapalam, Vijayawada.

**Results:** The result of the study showed a significant reduction in weight ( $p < 0.001$ ) and post prandial blood glucose ( $p < 0.001$ ) levels in the participants.

**Conclusion:** Result of the study suggests that yoga and naturopathic treatments are effective in reducing body weight and post prandial blood glucose levels in type 2 diabetes mellitus patients

**Key words:** Yoga; Naturopathy; FBS; PPBS.

PAPER ID: 47

### THE EFFECT OF NEEDLING AT BL-13, BL-14 AND BL-15 ACUPUNCTURE POINTS ON HEART RATE VARIABILITY AND BLOOD PRESSURE IN HEALTHY INDIVIDUALS

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**Background:** BL-13 (Feishu), BL-14 (Jueyinshu) and BL-15 (Hsinshu) are alarm points for lung, pericardium and heart respectively. These alarm points are speculated to regulate cardiac autonomic function and blood pressure. However, there are no studies until date to explore this phenomenon. Thus, the present study was conducted to study the effect of needling at BL-13, BL-14 and BL-15 acupuncture points on Heart Rate Variability and Blood Pressure in Healthy Individuals.

**Materials and methods:** A total of 30 subjects of age  $20.18 \pm 1.65$  years were recruited for

the study. All the subjects were administered acupuncture at BL-13, BL-14 and BL-15 bilaterally and six sham points on two consecutive days. The order of intervention was randomized. Assessment for heart rate variability and blood pressure were performed using polyrite (RMS Biosystems, India) and Sphygmomanometer (Diamond, India) respectively. Assessments were performed before and after 20 minutes of intervention. Kubios (Version 2.2) was used to extract and analyse time and frequency domain changes.

**Result:** No significant changes were seen following acupuncture in the above alarm points. Interestingly, within group analysis showed significant increase in RR interval ( $p < 0.016$ ) along with significant reduction in HR ( $p < 0.01$ ) and systolic blood pressure ( $p < 0.02$ ) in the group following sham session.

**Conclusion:** Needling at BL-13, BL-14 and BL-15 for 20 minutes without any stimulation does not change cardiac autonomic functions. We speculate that, no change following acupuncture intervention might be due to the regulatory role of the selected points. As the subjects were already healthy, no regulation in blood pressure resulted. The beneficial effects seen following needling at sham acupuncture points needs to be explored.

**Key words:** Acupuncture; BL-13; BL-14; BL-15; Autonomic variables; Blood pressure.



PAPER ID: 48

## EFFECTS OF TEPID WATER ENEMA ON BLOOD PRESSURE IN HYPERTENSIVE INDIVIDUALS

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**Background:** Hypertension is predominantly an asymptomatic condition and the diagnosis is made at routine examination or when a complication arises. Hydrotherapy is a branch of naturopathic medicine which uses water in various forms and temperatures for the treatment of various diseases. This study was based on assessing the effects of tepid water enema (TWE) on regulating blood pressure in hypertensive individuals. Cold application to muco-cutaneous surface by means of enema or water drinking influences heart and blood vessels and regulate systemic functions. Enema renders the invaluable service in cleansing the alimentary canal, besides the temperature will act as the reflex accelerator of heart and blood vessel.

**Materials and Methods:** The study consisted of experimental group of 20 subjects (age  $48.8 \pm 11.24$  years) and control group of 20 subjects (age  $54.4 \pm 8.84$  years). The experimental group was intervened with Tepid water enema whereas the control group had no intervention. The immediate pre and post measurements of blood pressure and other vital parameters were assessed for both experimental and control group. Statistical analysis was done using paired sample *t test* and independent sample *t test*, in Microsoft excel.

**Results:** Result showed significant reduction in systolic blood pressure ( $p < 0.000$ ), diastolic blood pressure ( $p < 0.000$ ) and body temperature in study group unlike control group.

**Conclusion:** Result suggested that TWE reduced systolic blood pressure and diastolic blood pressure in hypertensive patients.

**Key words:** Tepid water enema; Systolic blood pressure; Diastolic blood pressure

PAPER ID: 49

## EFFECT OF ICE BAG APPLICATION TO HEAD AND SPINE ON HYPERTENSIVE PATIENTS

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**Background** Naturopathy is defined as the system of medicine for cure of diseases by encouraging natural curative reactions inherent in every diseased cell through methods and treatments based upon the fundamental laws which govern health which is basically a preventive system of treatment. It aims to evaluate the efficacy of ice bag application on autonomic variables such as Heart rate variability (HRV), and blood pressure (BP) in hypertension patient.

### Materials and Methods

A total of 18 subjects were in study group. Assessment was done before and after the intervention in study group. The subjects in the study group received ice application to head and spine for 20 minutes. Statistical analysis was done using an appropriate statistical test, statistical package for the social sciences version 16.15 minutes of ice bag application to head, spine and sitting quietly for 15 minutes are both effective in reducing blood pressure but does not have effect in improving HRV (heart rate variability) in hypertensive patients.

### Result

Result showed significant changes in systolic



and diastolic blood pressure after ice bag application to head and spine. There are significant changes in demographic variable and in heart rate variability (HRV) such as RR, SDNN, HR, RMSSD, NN50, PNN50, LF, HF, and LF/HF

### Conclusion

Result suggests that IBA to head and spine reduces SBP and DBP and significant changes HRV (heart rate variability) in hypertensive patients.

### Key words

IBA - ice bag application, SBP - systolic blood pressure, DBP - diastolic blood pressure.

### PAPER ID: 51

## EFFECT OF HOT SAND FOMENTATION ON LOW BACK PAIN

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**Background:** "Lower back pain" refers to any pain or discomfort experienced in the lumbar spine which may be related to intervertebral discs, spinal cord and nerves, lower back muscles and ligaments, abdomen and pelvic organs, and the skin around lumbar area. Hot sand fomentation is employed over the cutaneous area of lower back which helps reducing muscular irritability by relieving the muscular spasm. Prolonged hot application produces vasodilatatory effects leading to increased blood circulation and thereby eliminating fatigue poisons such as lactic acid.

**Methods and Materials:** The study consisted of experimental group of 20 subjects (age  $39.55 \pm 9.7$ ) and control group of 20 subjects (age  $50.1 \pm 9.69$ ). The experimental group was

intervened with hot sand fomentation and yoga therapy for 5 days whereas the control group was given only yoga therapy. The pre and post assessment of low back pain was done with Oswestry disability index scale, visual analogue scale, straight leg raising and sit and reach.

**Result:** Result of the study showed a significant reduction in VAS of pain and Disability Index Scale with significant increase in range of motion (Right and Left sides) and spinal flexibility both in study and control group. However significant reduction in pain and increase in the range of motion (ROM) is better in study group than in control group.

**Conclusion:** Result of the study suggests with or without HSF is effective in reducing pain, ROM and spinal flexibility. However improvement was better in yoga with HSF than yoga alone.

**Key Words:** Hot sand fomentation; Pain; Range of motion; Flexibility.

### PAPER ID: 52

## APPLICATION OF SPICES AND HONEY MIXTURE ON PAIN IN PATIENTS WITH NECK AND SHOULDER PAIN

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**Background:** Cinnamon, Black pepper and Clove have antioxidant, anti-inflammatory, anti-bacterial and anti-fungal properties. In addition to this, Honey has anti-bacterial, anti-fungal and anti-septic properties. It is also found to be helpful in skin problem like skin allergy, burning and itching.

**Aim and Objectives:** The present study was aimed at assessing the intensity of pain in



neck and shoulder following the application of honey, cinnamon, black pepper and clove for 15 minutes.

**Materials and Methods:** A sample size of 30 (n=30) subjects were assessed using 'Shoulder pain disability index' and 'Neck disability index'. Assessments were made before and after the application of the honey and spices mixture for a time period of 15 minutes.

**Result:** Statistical analysis was done using student's paired 't' test. A significant change in total pain (p<0.001), total disability (p<0.001), total pain and total disability (p<0.001) and neck disability index (p<0.001) scores.

**Conclusion:** The findings from the study suggest that the application of honey and spices mixture would be beneficial in reducing pain in neck and shoulder.

**Key words:** Pain; Honey; Spices

**PAPER ID: 53**

## EFFECT OF LOCAL STEAM ON PAIN, RANGE OF MOTION AND FLEXIBILITY IN PATIENTS WITH BACK PAIN

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### **Background:**

Back pain is more common and affects 4 out of 5 people at some point of their lives. The prevalence of low back pain increases with age. Hot application to low back decreases muscle fatigue and increase excitability and promoting metabolism.

### **Aim and objects:**

To understand the effect of local steam on pain, range of motion and flexibility in patients with low back pain.

### **Materials and Methods:**

A total of 17 of age 30-60yrs subjects were assessed. Intervention was administered for 10 minutes per day for 5 days.

### **Result:**

The results showed significant reduction in VAS score for pain, increase in range of motion (ROM) of right leg and spinal flexibility.

### **Conclusion:**

The result of the study suggest that local steam application to lower back helps in reducing pain, and increasing range of motion and spinal flexibility.

### **Keywords:**

Local steam; Visual Analogue Scale (VAS); Straight Leg Raising (SLR); Sit and Reach (SR).

**PAPER ID: 55**

## A SELECTIVE ACUPOINT NEEDLING ACUTELY ENHANCES PULMONARY FUNCTIONS IN HEALTHY INDIVIDUALS

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### **Introduction:**

Pulmonary functions are noted to be on the decline due to increase in psychological stress, environmental pollution and lifestyle. These result in disorders of the pulmonary system including Bronchial Asthma, COPD, TB etc.,. Acupuncture is a minimally invasive ancient system of medicine which regulates the flow of energy to the affected organs through manoeuvring specific points in the body. This study was conducted with an objective to study the effect of needling on acupoint lung7 (*lieque*) on peak expiratory flow rate in healthy individuals.



**Method:**

Thirty-four healthy individuals of age range 18-25 years with no history of pulmonary diseases were included in the study. The subjects were administered randomly an acupuncture on *lieque* or sham needling on two consecutive days at the same time for 20 minutes while sitting. Peak Expiratory flow rate was assessed immediately before and after the intervention on both the days.

**Results:**

The pulmonary functions of the subjects were similar on both the intervention days ( $p=0.71$ ). There was a 16.3% increase in the peak expiratory flow rate following acupuncture at *lieque* as compared to 2% improvement following sham needling. Between group analysis showed a significant increase in pulmonary functions following acupuncture at *lieque* ( $p\leq 0.001$ ).

**Conclusion:**

Acupuncture needling at *lieque* is helpful in enhancing pulmonary functions. We speculate that the effect might be due to the reflex stimulation of the diaphragm by the phrenic nerves which receive their stimulus from the brachial plexus and cutaneous nerves of forearm. Needling in *lieque* might be beneficial in the management of pulmonary disorders.

**PAPER ID: 56**

**EFFECT OF LIVER-3 (TAICHONG)  
IN HEART RATE VARIABILITY  
AND BLOOD PRESSURE IN  
HEALTHY INDIVIDUAL**

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**Background:**

The most potent weapon of traditional Chinese medicine is acupuncture. Liver-3(*Taichong*) is a very good homeostatic point being most effective in the treatment of hypertension. According to the previous studies, *Taichong* in combination with other acupuncture points has shown to reduce the blood pressure in hypertensive subjects but to the best of our knowledge there are no studies reported the effect of *Taichong* alone in HRV and other autonomic variables.

**Methods:**

In ten male volunteers ( $21.3\pm 1.88$  years) immediate effect of acupuncture on needling at Liver-3(*Taichong*) for 20 minutes and HRV (Heart Rate Variability) and Blood Pressure (BP) was assessed was done before and after the session.

**Result:** Significant reduction of Systolic Blood Pressure and Diastolic Blood Pressure are seen in healthy individuals and no such significant changes are seen in HRV (Heart Rate Variability).

**Conclusion:** Result of the study suggests that needling at Liver 3 is effective in reducing Blood Pressure.

**Key Words:**

Acupuncture; Liver 3; Taichong; Heart Rate Variability; Blood pressure.



PAPER ID: 57

## IMMEDIATE EFFECT OF BL17 AND BL18 ACUPUNCTURE POINTS ON BLOOD GLUCOSE LEVELS IN TYPE 2 DIABETES MELLITUS PATIENTS: A RANDOMIZED CONTROLLED TRIAL

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### Background:

Diabetes mellitus is a metabolic disorder characterized by hyperglycemia, glycosuria, tendency to ketosis and liability to develop complications due to vascular degeneration. Acupuncture is the traditional Chinese treatment techniques over the past 5000 years. According to the previous studies, acupuncture has shown to be helped in diabetes patients; forty-six diabetes patients with chronic painful peripheral neuropathy were treated with acupuncture analgesia to determine its efficiency and long-term effectiveness. CV12 (Zhongwan) acupoint induces secretion of endogenous beta endorphin which reduces plasma glucose concentration in an insulin-dependent manner but to the best of our knowledge there are no studies reported the effect of BL 17 and BL 18 on blood sugar level of diabetes type 2 patients.

### Methods:

Thirty patients who are suffering from Type 2 Diabetes Mellitus recruited from Arogyadhama, SVYASA University, Bangalore. Subject receive study and control intervention into 2 different orders. Order 1 - day 1 (needling at BL17 and BL18), day 2 (placebo point). Order 2 - day 1 (placebo point), day 2 (needling at BL17 and BL18). Pre-and post-assessment was taken before

and after intervention.

**Result:** Result show no significant changes in either study or control sessions.

**Conclusion:** Result of the study suggests that needling at BL 17 and BL 18 is not effective in reducing blood glucose level.

**Key Words:** Acupuncture: BL 17(geshu) and BL 18(ganshu).

PAPER ID: 58

## IMMEDIATE ROLE OF TWO YOGA-BASED BREATHING TECHNIQUE ON STATE ANXIETY IN PATIENTS SUFFERING FROM ANXIETY DISORDER: A SELF AS CONTROL PILOT STUDY

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**Objective:** To evaluate immediate effect of *Nadisodhana Pranayama* on state anxiety in patients suffering with anxiety disorder.

**Materials and Methods:** The study was performed on psychiatric participants (male = 10; female = 12) with age range of 18 to 49 years, age mean  $\pm$  standard deviation (30.22  $\pm$  09.08). The baseline data were used. The self as control design was followed participants participated in *Nadisodhana* and Breath awareness for 10 min. the same time for two consecutive days. The sequence of the session was assigned randomly to the participants. The state anxiety was assessed using state-trait anxiety inventory (STAI) before and immediately after each session.

**Results:** Within-group comparison showed that due to alternate nostril breathing and breath awareness, STAI scores reduced or significant reduction of STAI scores in both groups ( $P < 0.001$ ). In between-group



comparison baseline was statistically matched ( $P = 0.596$ ) whereas after intervention there was significant difference in STAI scores ( $P < 0.001$ ; Mann-Whitney test). The percentage change of state anxiety was 25% after *Nadisodhana* whereas 8% after breath awareness. **Conclusion:** This pilot study shows that both *Nadisodhana* and breath awareness are effective mind-body practices to reduce state anxiety in patients suffering from anxiety neurosis. However, the immediate effect in reducing state anxiety was better after *Nadisodhana* (25%) compared to breath awareness (8%).

**Keywords:** *Anxiety, Nadisodhana, yoga*

**PAPER ID: 60**

### EFFECT OF NEEDLING AT STOMACH 36 ON BLOOD SUGAR LEVEL IN TYPE 2 DIABETES MELLITUS

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#### **BACKGROUND:**

Diabetes mellitus is a metabolic disorder characterized by hyperglycemia, glycosuria, tendency to ketosis and liability to develop complications due to vascular degeneration. Acupuncture is the traditional Chinese treatment techniques over the past 5000 years. The stomach meridian has 45 points. Zusanli which is also called stomach 36 is located one finger breadth lateral to the tibial tuberosity. Zusanli which is located below the knee is used as distal points for disorder of proximal parts of the body, to find the effectiveness of blood sugar level particular point zusanli is used which is indicated for diabetes mellitus.

[1]

#### **Aims and Objectives:**

To find the changes in the blood sugar level by needling the acupuncture point of stomach 36 and placebo point with the manual stimulation.

#### **Materials and Methods:**

Sixty Type 2 diabetes mellitus patients recruited and divided into study and control group. Study group received needling at st-36 while the control group received needling at placebo point. Random blood glucose level was assessed before and after each intervention.

**Results:** Result of the study showed significant reduction in random blood glucose level in the study group compare to its baseline. No such significant change was observed in control group.

#### **Conclusion:**

Result of this study suggest that needling at stomach 36 might be effective in reducing blood

sugar in patients with type 2 diabetes mellitus.

**Keywords:** Stomach 36, Type 2 Diabetes mellitus, Random blood sugar.

**PAPER ID: 61**

### MEDITATION LEADS TO RHYTHM AND COHERENCE IN SUBTLE ENERGY

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The regularity in the practice of meditation



has a cumulative effect in building our consciousness, character and personality. Effects of consistent meditation practice for longer duration are not hidden and it is like planting a seed under the ground whose growth is hard to observe from surface. However, beneath the ground, unseen, the seed is germinating and sprouting. Peripheral awareness gets expansion owing to meditation and is hard to measure by the realm of attention and awareness of an observer from outside. This peripheral expanded awareness becomes part of our consciousness. The effect is integrative, that is, the contents and perceptions of the peripheral awareness do not remain as independent elements of the consciousness that might eventually result in resolving the psychological conflicts and distresses. If we become aware of subtle discomforts, we stay with the experience of discomfort until it is resolved, either through processing or reasoning, but not through repression. During meditation practice a lot of changes take place at different levels of body and mind. The changes happening at the subtle level manifest at the effect level. There are various platforms where channelization of subtle energy occurs in the body during meditation. Meditation for a longer duration brings forth changing events with rhythm and coherence in the whole body from subtle to gross level.

Mostly the studies are focused on the effect of meditation but little is known about the changes which are taking place at different levels. The current attempt is to look into different aspects of changes occurring at the subtle level and manifestation gained due to consistent meditation.

**Key Words:** Subtle energy, Meditation, Awareness, Prana, Mind

**PAPER ID: 62**

## **EFFECT OF ONE-WEEK IAYT ON OBESITY USING ELECTRO PHOTONIC IMAGING TECHNIQUE**

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### **BACKGROUND**

Obesity is the most challenging health conditions of the modern world and is spreading like an epidemic causing serious health hazards. The Gas Discharge Visualization (GDV) instrument is becoming popular to measure subtle energy level in human subjects. The instrument Gas Discharge Visualization measures electron emission from fingertip. Variation in GDV image corresponds to changing health status in different organ system. Here we determined the characteristics of GDV image patterns in Obesity participants.

### **AIM**

The purpose of the present study was to use Electrophonic Imaging Technique to assess the effect of one week integrating yoga therapy (IAYT) on obese participants.

### **METHODOLOGY**

Thirty-seven obese participants with the age range from 20 to 60 years at Arogyadhama of SVYASA University, Bangalore India, had participated. They were given Integrated Approach Yoga Technique (IAYT) practices every day for one week according to Arogyadhama Schedule for Obesity section and GDV assessments were made before and after one week.

### **RESULT**

Data were not normally distributed, and we have conducted non-parametric Wilcoxon's sign rank test to see within group differences.



The GDV results showed changes in various variables ( $p < 0.05$ ) like Endocrine system, Chakras, Digestive system, and Immune system.

## CONCLUSION

GDV was found to be able to show distinct changes in variables related to obesity.

## KEY WORDS

Gas Discharge Visualization, Obesity, IAYT.

## Inclusive Criteria

Age range 20 to 60 years, and obesity participants who are in Arogyadhama at SVYASA University in Bengaluru, India.

## Exclusive Criteria

Anybody with cut finger, or self reported psychological problems, were excluded.

## PAPER ID: 63

# IRIS-DIAGNOSIS: A QUANTITATIVE NON- INVASIVE TOOL TO EVALUATE MANIFESTATION OF PERSEVERATIVE COGNITION

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## Background:

Perseverative cognition, known as the 'cognitive representation of stressor' is associated with incidence of several non-communicable diseases. It is also known to affect prognosis of diseases. Iris-diagnosis is an evolving system of quantitative non-invasive diagnosis that believes in representation of diseases as various signs in Iris. Common embryological origins for Iris from two of the three neural layers and

most organs forms the scientific rationale for Iridology. This study was designed with an objective to assess manifestation of signs specific to various levels of perseverative cognition.

## Methods:

Thirty-Eight subjects of age range 25 to 58 years were recruited in the study following consenting procedures. Iris images, basic demographic details and perseverative thinking questionnaire were obtained. The perseverative cognition scores were grouped into equally divided four quadrants. Changes in colour, texture and presentation of various iris signs at areas corresponding to mental function were evaluated in both the Iris.

## Results:

Subjective analysis of Iris signs indicates increased incidence of nerve rings, and darkening of 2<sup>nd</sup> and 3<sup>rd</sup> major zones with increasing perseverative cognition. Also, presence of undifferentiated Autonomic Nerve Wreath across individuals with varying levels of perseverative cognition might be due to hampered digestive process and lifestyle. We propose that appearance of Equilibrium line in the Iris might be one amongst the first Iris signs to manifest with stress.

## Conclusion:

The findings are suggestive that, increased presence of lesions in the mental area of Iris topography might correlate with the levels of perseverative cognition. Presence of Equilibrium line in the Iris might represent allostatic process. We speculate the origin of Iris signs might be influenced by the Hypothalamo-Pituitary-Adrenal Axis and the Gut-Brain Axis. Objective measures to correlate Iris signs to physiological conditions are required for further validation.



**PAPER ID: 64**

## **YOGA BREATHING ENHANCES PSYCHOLOGICAL WELLBEING AND REDUCES MIND-WANDERING**

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**Background and Objective:** Yoga is known to have a positive impact on psychological health. In the current study, we assessed the correlation between duration of yoga practice and state mindfulness, mind-wandering and state anxiety. We also evaluated the impact of yoga breathing before and after 8 weeks of training on the said psychological constructs.

**Methods:** One hundred sixteen yoga practitioners were randomly assigned to experimental (n=60) and control (n=56) groups. Experimental group performed yoga breathing for 20min/day, whereas the control group was involved in sports activities for similar duration. The state mindfulness attention awareness scale (SMAAS), Mind-Wandering Questionnaire (MWQ) and State anxiety inventory were administered at the baseline and at the end of 8 weeks.

**Results:** The baseline assessment revealed a positive correlation of duration of yoga practice with SMAAS scores and negative correlation with MWQ and state anxiety scores. At the end of 8 weeks, both groups demonstrated enhanced psychological functions, yet the experimental group better than the control group.

**Conclusion:** Yoga breathing for 20 min could enhance the psychological functions and

reduce Mind-Wandering in young adult yoga practitioners.

**Key Words:** Yoga, Yoga Breathing, Pranayama, Students, Psychological Well-Being

**PAPER ID: 66**

## **EFFECT OF 3 MONTHS YOGA ON GLYCAETED HAEMOGLOBIN (HbA1c), ANTHROPOMETRIC AND CLINICAL PARAMETERS ON RURAL POPULATION: SINGLE GROUP PRE-POST DESIGN**

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### **Background**

There is an increase in the lifestyle based non communicable diseases and statistics show that diabetes mellitus has been rapidly increasing in India. Yoga has proven effective intervention in the management of lifestyle diseases.

### **Methods**

Sixty subjects, male (n=30) and female (n=30) participated in the yoga program, which included one hour practice (i) Breathing Practices (ii) Loosening Practices (iii) Suryanamaskara (iv) Asanas (v) Pranayama (vi) Relaxation and (vii) Meditation techniques.

The single group pre-post design was used in this study. Glycaeted haemoglobin, Anthropometric and Clinical parameters were assessed pre and post of 3 months of intervention. Doctors visited periodically for consultation.

### **Result**

Pre-post intervention showed significant



reduction in HbA1c ( $6.60 \pm 1.86$  to  $6.27 \pm 1.97$ ), body mass index ( $25.02 \pm 4.88$  to  $24.28 \pm 4.31$ ), waist-hip ratio ( $0.91 \pm 0.08$  to  $0.87 \pm 0.06$ ), systolic blood pressure ( $132.07 \pm 17.92$  to  $120.20 \pm 14.36$ ) and diastolic blood pressure ( $86.29 \pm 8.98$  to  $78.92 \pm 9.09$ ), along with improvement in respiratory rate ( $19.64 \pm 4.97$  to  $16.31 \pm 3.81$ ), pulse rate ( $78.15 \pm 12.21$  to  $73.10 \pm 8.39$ ), and bhramari time ( $10.12 \pm 5.23$  to  $14.49 \pm 5.71$ ).

### Conclusion

Yoga intervention had significant effect on HbA1c, anthropometric and clinical parameters. Longer term study with continuous follow up is necessary to ascertain the benefits.

### Keywords

Diabetes and anthropometry Lifestyle diseases Yoga BMI Diabetes and Yoga

Anthropometry and yoga Yoga and blood pressure

PAPER ID: 67

## EFFECTS OF A TRADITIONAL EDUCATION SYSTEM ON ADOLESCENTS - A DESCRIPTIVE STUDY

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### Background

Right education complements adolescence, when personality is formed and modern education (MES) could improve with Indian Traditional Education System (ITES) for a holistic personality development. The present study describes aspects of ITES that

could aid MES, and assesses benefits of a 10-day ITES based program. The present study is a preliminary attempt at suggesting a paradigm where the two systems of education are ergonomically integrated and demonstrating its results on quantitative measures of sustained and selective attention and personality.

### Methods

The single group pre-post interventional study, involved 429 adolescents between 9 and 16 years, done in 10-day residential personality development camp. Yoga-postures, pranayama, relaxation-techniques, meditation, chanting and lectures were taught. The Six Letter Cancellation Task (SLCT), Digit Letter Substitution Task (DSLST) and Guna Personality Inventory (GI) were assessed before and after the intervention. Parametric tests were used and subgroup analyses between age groups and between genders was done.

### Results

Scores of DLST (29.59%,  $p < 0.001$ ) and Guna Inventory (4.71%,  $p < 0.001$ ) increased significantly while SLCT only improved amongst juniors (10.22%,  $p = 0.031$ ).

### Conclusion

This residential ITES program may elicit a holistic positive transformation in adolescents and benefits adolescents at a deeper level and can change their personality apart from improving the perception and performance. This demonstrates a proof-of-concept that traditional system based program benefits learning and personality and an integration with modern education would benefit adolescence. The present study, proposes a novel approach by providing 10 day ITES program that has shown it to be implementable.



**Key words:** Adolescents; Modern Education; Traditional Education; Yoga; SLCT; DLST; Guna Personality Inventory

**PAPER ID: 68**

## COMPARATIVE ANALYSIS BETWEEN MODERN AND ALTERNATIVE SYSTEM OF MEDICINE IN CANCER

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Cancer and its complications are life fatal. Although medical science has been advancing to save the lives but the side effects worsen the physiology. With these facts, the present study is aimed at compiling and making an analysis of the published research papers with respect to the treatments available for cancer in modern medical science and alternative medicine. Over recent decades, reasonable evidence has emerged that these brain-to-immune interactions are highly modulated by psychological factors which influence immunity and immune system-mediated disease. The most abundant circulating steroid hormones in humans and their low levels have been associated with age-related involuntary changes, including reduced lifespan. The link between the brain, behaviour, and the immune system and the implications of these linkages for physical health and disease needs to be investigated. The neuroendocrine regulation of the inflammatory response is of major significance from the point of view of immune homeostasis and the malfunction of this circuit leads to disease and often is life-threatening. Neurodegenerative changes are the frequent outcomes of the changes in the hypothalamic-pituitary-adrenal axis and the immune system. The immune and nervous systems act in highly reciprocal manner. The clinical implications of immune alterations

on inflammatory and infectious disease are at risk. This article will enlighten the readers in terms of the mechanism of action of both modern and alternative system of medicine.

**Key word:** Cancer, Modern medicine, Comparative analysis, Alternative medicine

**PAPER ID: 69**

## YOGA FOR PSYCHOLOGICAL HEALTH IN ORPHANAGE: A RANDOMIZED CONTROL STUDY

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**Background:** An orphan is a child who has lost parents. Orphaned is a condition where one has lot of emotional disturbances, which effect the whole physical, mental and social development of individual. According to the recent UNICEF Report, it is estimated there are between 143 million to 210 million orphans in the world wide. In India, the South Zone has about 3.47 million orphan children and this figure is expected to rise to 3.66 million by 2021. The North Zone has the second lowest number of orphan children in the country at 2.70 million, a figure that is estimated to reach 3.37 million. The West Zone has the lowest number of orphan children in the country at two million, and the number might rise to 2.36 million.

**Methods:** Samples of 60 people are taken from kasturba seva samsthan between the age group of 11 to 14 years who are randomly allocated into yoga and control group. Yoga group has been given yoga practices for 40 days and the control group is given yoga practices for 20 days and assessment are taken in first day and last day

**Setting:** Study was conducted on sixty orphan children, Rajasthan, India, between



the periods of June 2016 to July 2016.

**Intervention:** 1 hour yoga practices are designed which is the combination of breathing, loosening, Surya Namaskara, asana along with pranayama practices followed by relaxation.

**Result:** The Paired Sample T-test using r-studio showed significant changes.

In Attitude Towards Violence 0.0003486 ( $P < .001$ ), in Anxiety 0.000266 ( $P < .001$ ), in Hope 4.731e-15 ( $P < .001$ ) and also in mindfulness 0.001711 ( $P < .001$ ) in experimental group compared to control group. Attitude Towards Violence 0.06905 ( $P > .05$ ), Anxiety 0.4704 ( $P > .05$ ), Hope 0.06351 ( $P > .05$ ) and Mindfulness 0.02485 ( $P > .05$ ). Between groups analysis was done using Independent Sample T-test.

**Conclusion:** Daily practice of yoga, combination of asana, pranayama and relaxation practices helps in maintaining good psychological health

**Keywords:** orphans, anxiety, attitude towards violence, mindfulness, hope

PAPER ID: 70

## MUSIC AS YOGA - A PATH TO SELF REALISATION (MOKSHA)

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Indian classical music, philosophy, yogic teaching- Many of these are attributed to have its roots in the four Vedas.

'AUM' OR 'OM', pranava has been chanted for the past 4000 years, is believed to be the first sound, the manifested sound of divine

### General Benefits of Yoga Music:

- The ability to fully relax.

- Improve balance and concentration.
- Provide a foundation to help clear the mind of thoughts.
- Using specific tones or waves (Such as alpha or delta) to achieve a particular state of mind.

Vishuddhi Chakra (Psychic Centre present in the throat region) is linked with swara (voice), important factor in music. As per science of yoga, The swara is termed as 'VAK', which has four types as Vaikhari, Madhyama, Pashyanti and Para. In the first one, Vaikhari produces human voice. Even in minor Upanishads called as Hansopanishad which speaks about ten varieties of Naada (Sound). As chini, conch blowing, Tara instrument sound, Dholak sound, Flute, Drum sound and Mrudangam. Naada Bindu Upanishad states sounds like clouds thundering, roaring sea, birds chirping, spring water ripples.

- The swaras of musical octave are related to Chakras in the human body with their respective Elements (Panchabhootas) as follows:
  - Shadjam - The Mooladhara Chakra - Element is Earth / Prithvi.
  - Rishabham-Swadhishtana Chakra - Element is Water/Jalam.
  - Gandharam- Manipooraka Chakra - Element is Fire/Agni.
  - Madhyamam-Anahatha Chakra-Element is Air/Vayu.
  - Panchamam-Visuddhi Chakra-Element is Ether/Aakasam.
  - Dhaivatham-Ajna Chakra- All Elements.
  - Nishadam-Sahasrara- It also integrates all the chakras with their respective qualities. - All Elements.



PAPER ID: 72

## POTENTIAL CURATIVE EFFECTS OF YOGA AND AYURVEDA FOR CANCER

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**Background:** Rates of cancer incidence vary with the 6<sup>th</sup> power of a person's age T, a T<sup>6</sup> Law. This means that carcinogenesis requires six levels of cellular dysfunction, like failure to prevent ongoing mitosis, prevention of recognition by killer cells, resistance to induced apoptosis, the ability to cluster, to form an invading tissue; and the ability to induce vasculature for tumour growth. Each is caused by changes to cell chromosomes, either genomic or epigenomic. At the level of cell metabolism, these can have identical effects, as shown by the law of Genetic-Epigenetic equivalence. Genetic mutations are irreversible, but epigenetic problems are reversible. Hence, cancer will be curable, unless all six causes are mutations.

**Results:** Treatments that restore epigenetic changes to normality may cure cancer. Such effects can be created by Ayurvedic herbs, Yoga practice, or diet and lifestyle. All have been found to have strong effects against various cancers.

**Discussion:** the AMA claims that cancer is caused by genetic mutations and is incurable. Though true for radiation induced carcinomas, it is manifestly untrue in general. Regularly observed permanent remission is neglected. Our analysis proves that the actions of Yoga and Meditation may restore normality.

**Conclusion:** Most Yoga and Cancer studies only assess patient quality of life. In future, they should also assess increases in rates

of survival and 'permanent remission', i.e. cure.

PAPER ID: 73

## "VRUKSHO RAKSHATHI RAKSHITHAHA"- A GREEN ANTI-CANCER APPROACH

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Cancer remains one of the leading causes of morbidity and mortality globally. Amongst the non-communicable diseases, cancer is the second leading cause of death, after cardiovascular disease. Globally, the number of cancer deaths is projected to increase from 7.1 million in 2002 to 11.5 million in 2030. Chemotherapy is routinely used for cancer treatment. However, chemotherapeutic treatments are not devoid of their own intrinsic problems. Hence, continued searching for a safer and more effective treatment is clearly needed for the improvement of the efficiency and to lower the treatment cost for cancer care. Various therapies have been propounded for the treatment of cancer, many of which use plant-derived products. There are four classes of plant-derived anticancer agents in the market today. Plants still have enormous potential to provide newer drugs and as such are a reservoir of natural chemicals that may provide chemoprotective potential against cancer. The activity of many of the plants currently in use in cancer chemotherapy can probably be ascribed to inhibition of nucleic acid. This review will discuss some of the potential anticancer plants that have recently been tested with the implied mode of administration. The possible mechanism of action of such plant products is also discussed.



**Key words:** chemotherapy, plant derived anti-cancer agents, natural chemicals, inhibition of nucleic acid..

**PAPER ID: 74**

### **PANCHAMAHABHUTAS: A BETTER TOOL FOR UNDERSTANDING PERSONALITY TRAIT**

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The theory of panchamahabhutas (PCM) forms the fundamental essence of naturopathic medicine. PCM influences the personality at different planes of being i.e. physical, psychological and spiritual. The five great elements are ether, air, fire, water and earth. Predominance of Chakras also have great role in understanding the personality trait and are well linked with PCM.

Earth is dense, stable and heavy element representing Mooladhara chakra influences reproductive and excretory organs. This personality is healthy, fat, strong and has strong sense of smell. They are hard working, protective, down to earth, and egoless.

Water as an element of adhesiveness represents Swadhisthana chakra influencing urinary and reproductive system. This personality is slender with beautiful extremities and has strong sense of taste. They tend to be easy going and maintain the bond; keeping everyone united.

Fire is hot, sharp and bright element representing Manipura Chakra influences digestion and assimilation. This personality has attractive features, beautiful eyes and strong sense of vision. They are ambitious, inclined to sensuality and greed.

Air is mobile, light and subtle element representing Anahata Chakra influences Cardio-pulmonary system. This personality is lean and sensitive to touch. They tend to be active, restless and emotionally reactive. They tend to have poor digestive capacity and electrolyte imbalance.

Space is clear and immeasurable representing Vishuddhi Chakra influences cervical plexus and thyroid gland. This personality has fixed facial features and is expressively blunt. They are good speakers and listeners. They can accept the adversities of life, mentally balanced and are sensitive to the needs of others.

Thus, understanding the personalities in terms of PCM will help in determining disease susceptibility, better diagnosis, prognosis and planning treatment protocol and diet.

**KEY WORDS:** PCM, Prakriti, Chakras

**PAPER ID: 75**

### **EFFECT OF YOGA PRACTICE ON URBAN OBESE MALE**

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**Background:** Obesity a global health disorder, is growing rapidly and is a cause for non-communicable diseases. Obesity is cause for many types of cancers. Obesity is increasing in Indian urban areas among male adults. Available solutions for urban obesity control have limitations.

**Aim:** To study the effect of IAYT (Integrated Approach of Yoga Therapy) yoga module on urban male obese.

**Materials and Methods:** Parallel group RCT (Randomized Controlled Trial) was



conducted for six months on obese male in Mumbai. Total number of subjects were 80 and 72 completed intervention (Yoga n=37, Control n=35), consisting of: Yoga group (Age 40.03±8.74, BMI 28.7±2.35) and Control group (Age 42.20±12.06, BMI 27.70±2.05). IAYT was administered to yoga group for fourteen weeks and for next three months they continued IAYT at home. Control group did physical activity like walking, in place of IAYT.

**Assessments:** Anthropometric, body composition and psychological parameters were assessed. Body composition was assessed using BIA (Bioelectric Impedance Analysis) method using InBody R20. Assessments were at baseline after three months and after 6 months. Using SPSS, statistical analysis was carried out. Within group and between group analysis for pre post and follow up were carried out. To find out relative improvements from pre to post among the variables, correlation analysis was carried out.

**Results:** The anthropometric body composition and psychological parameters were improved in both groups but changes were more significant in Yoga group. The improvements were slightly reduced during the follow up.

**Conclusion:** Incorporating the IAYT for obese male in urban setting will be useful for controlling the obesity and for reducing the obesity related psychological problems.

**PAPER ID: 76**

## **EFFECT OF COLD PACK TO EYE ON COGNITIVE FUNCTIONS IN HEALTHY MEDICAL STUDENTS**

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### **Background**

Naturopathy is defined as the system of medicine for cure of diseases by encouraging natural curative reactions inherent in every diseased cell through methods and treatments based upon the fundamental laws which govern health which is basically a preventive system of treatment. It aims to evaluate the efficacy of cold eye pack on cognitive functions such as Digit-Letter substitution test (DLST), Six-Letter cancellation test (SLCT) and Trial making (A,B).

### **Materials and Methods**

A total of 60 subjects were recruited in study. The subjects in the study group received CEP for 15 minutes. Assessment was done before and after the intervention in study group. The subjects in control group were sitting quietly for 15 minutes. Assessment was done before and after the speculated time. Statistical analysis was done using an appropriate statistical test, using excel. 15 minutes of CEP and sitting quietly for 15 minutes are both effective in improving cognitive variables but not to the extent.

### **Result**

Result showed significant changes in cognitive variables after application of CEP. There are no significant changes in demographic variable.

### **Conclusion**

Result suggests that CEP is effective in improving cognitive functions in healthy medical students.



**Key words:** Cold eye pack; cognitive functions; supine rest

**PAPER ID: 77**

## EFFECT OF CASTOR OIL PACK ON BLOOD GLUCOSE LEVELS IN DIABETES

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### Background

Diabetes mellitus (DM) refers to a group of common metabolic disorders that share the phenotype of hyperglycaemia. Several distinct types of DM exist and are caused by a complex interaction of genetics and environmental factors. Depending on the etiology of the DM, factors contributing to hyperglycaemia include reduced insulin secretion, decreased glucose utilization, and increased glucose production. Hyperglycaemia is one aspect of a far-reaching metabolic derangement, which causes serious microvascular (retinopathy, nephropathy, neuropathy) or macrovascular problems: stroke, myocardial infarction. <sup>(1)</sup>

Castor oil pack includes castor oil application in the upper right quadrant of abdomen region and followed by placing fomentation bag for 20 min. commonly given to patients with diabetes to improve liver detox, and the blood glucose levels. There are no literature present on the effect of castor oil pack on blood glucose levels.

### Materials and Methods

A total of 20 subjects were recruited in study. The subjects in the study group received WCP for 20 minutes. Assessment was done before and after the intervention period in study group. The subjects in active control group were given fomentation over right upper quadrant of abdomen for 20

minutes. Assessment was done before and after the speculated time. The subjects in passive control group were only on yogic practises. Statistical analysis was done using an appropriate statistical test, using excel. The effect of 20 minutes of WCP or only yogic practices, both have been effective in reducing blood glucose levels but not to the same extent.

### Result

Result showed significant changes in blood glucose levels.

### Conclusion

WCP and yogic practices both efficient in reducing the blood glucose levels

**Key words:** Warm Castor oil Pack, Diabetes Mellitus, Liver activity, Blood glucose levels

**PAPER ID: 78**

## EFFICACY OF STRUCTURED YOGA INTERVENTION FOR SLEEP, GI AND BEHAVIOR PROBLEMS OF AUTISM SPECTRUM DISORDER (ASD) CHILDREN: AN EXPLORATORY STUDY

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### Introduction:

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder. Onset of disorder happens at early age between the 18 months to 36 months. ASD children suffer from both physiological and psychological conditions like sleep, gastrointestinal and behavior problems (social communication, lack of attention, repetitive and restrictive behavior, anxiety and depression etc). Our hypothesis is that yoga brings significant



changes in these problematic areas of ASD children.

**Aim:** The aim of this study is to find out efficacy of Structured Yoga Intervention for Sleep, GI and behavior problems of ASD children.

**Materials and Methods:** It was an exploratory study with pretest and posttest control group design. Three sets of questionnaires developed by researcher having 61 questions were used to collect data pre and post yoga intervention. Questionnaires were based on three problematic areas of ASD children as mentioned above. Questionnaires were administered to parents with teacher's assistance. Experimental group was given yoga intervention for a period of 90 days and control group continued with school curriculum.

**Results:** Both children and parents participated in this intervention. Significant changes were seen post yoga intervention at both physical and mental level. We have seen early results particularly in sleep and digestion (GI) related problem according to parent's feedback.

**Conclusion:** Structured Yoga Intervention can be conducted for a large group of ASD children with parents. It can be used as alternative therapy to reduce the severity of problems of ASD children.

**Key words:** Social communication, attention, sameness, Physiological, Psychological, anxiety, depression.

**PAPER ID: 79**

## **EFFECT OF SURYA NAMASKARA ON REPRODUCTIVE HEALTH OF TEENAGED GIRLS**

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**Introduction:** Menstrual cycle is sequence of events that occurs once in a month in sexually matured female from menarche to menopause. Premenstrual syndrome (PMS) is a condition of recurrent physical and psychological symptoms occurring in cyclic fashion during luteal phase of menstrual cycle of women.

**Methods and materials:** All the students are taken from D.K.W. JR. College and 9<sup>th</sup>& 10<sup>th</sup> of Srinivasa school in Andhra Pradesh, who are interested to participate in the study and who are in between 14 and 19 years underwent PMS screening based on a questionnaire. Participants having complaint of PMS were selected and randomly allocated in two groups

Forty-five participants underwent yoga training i. e., Maintenance of postures during practice, every for one hour for two months. The variables like quality of life, anxiety, depression and premenstrual symptoms were recorded before and after the intervention.

Similarly, the other group consisting of 45 female participants underwent training with fast Suryanamaskara and supine rest for 2 months and the above-mentioned variables were assessed to see the efficacy

**Result:** There is significant change in both groups in variables viz., anxiety, depression and quality of life whereas significant reduction in Premenstrual symptoms like Pain was observed.

**Conclusion:** Both Fast and Maintenance of



postures during Suryanamaskara produced better effect in Psycho-physiological health of teenagers with PMS.

**Key words:** premenstrual syndrome (pms), Suryanamaskara

PAPER ID: 80

### UNILATERAL NOSTRIL BREATHING PRACTICE EFFECT ON WORKING MEMORY IN HEALTHY VOLUNTEERS- A COMPARATIVE STUDY

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**Introduction:** Working memory and reaction time are very important skills for performing an action for each individual. Yoga is a combination of physical and mental disciplines which make stronger and healthier body and sharper, focus and calm mind. Several studies reported that *Yogā* practice enhanced concentration and improve attention with the reduce fluctuations of mind. However, the basic understanding requiring the differential dimensions of *Yogā* practices remained unexplored.

**Aim:** To study the effect of uninostril breathing practice on working memory in healthy volunteers.

**Methodology:** Total 15 male right handed yoga practitioners with age ranged between 18-30 years ( $23.43 \pm 3.88$ ) were enrolled in the current study. Those who have psychological, physiological, neurological issues and who are addicted to smoking and drinking are excluded from study. All participants are from S-VYASA Yoga University, Bangalore.

#### Data Analysis:

Statistical analysis was performed using the SPSS version 20.0. Following the normal

distribution of the data, within group differences were analyzed using the repeated measure ANOVA.

**Result:** Results demonstrated that the right nostril and left nostril breathing group showed significant changes in performance. Similarly, the right nostril breathing and left nostril breathing practices showed significantly higher total attempt with taking less reaction time duration ( $p < 0.001$ ) and reduction of wrong responses ( $p < 0.001$ ) compared to control group.

**Conclusion:** The study suggests that regulated uni nostril breathing practice enhances reaction time, responding ability, improved attention power and more concentration power with fine motor coordination and cognitive performance.

PAPER ID: 81

### PREVENTIVE APPROACH TO CANCER FROM THE PERCEPTIVE OF NATUROPATHY

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Cancer is the leading cause of death, which will soon become the number one killer in many parts of the world. We propose to develop a preventive approach using scientific method to treat cancer. Cancer has a complex pathophysiology. Gaining an understanding of the mechanism underlying this highly prevalent and burdensome symptom is of great interest to research and clinicians alike, yet relatively few studies have evaluated the aetiology of cancer or the factors that mediate it, related to physiological effects. According to naturopathy the cancer is a constitutional



disease, that is routed by the presence of morbid matters in the system, which can be prevented by natural methods of living and purifying the system by building up the blood to normal basis and providing with the proper element of nutrition. The conventional medicine uses chemotherapeutic drugs and other radiation therapy which has its own advantage in treating cancer. But most of it focus on suppressing symptoms associated with cancer and have significant side effects. Hence, the use of naturopathic management can help to prevent the risk of developing the cancer and the side effects of conventional medicine. Combining the natural preventive methods with further research might reveal the strategies to treat respective malignant disease, leading to individualised treatment approach according to the concepts of modern Integrative Medicine.

**Keywords:** Prevention, Naturopathy, Cancer, Conventional medicine

**PAPER ID: 82**

## **YOGA FOR CHRONIC KIDNEY DISEASE: A REVIEW OF SCIENTIFIC EVIDENCE**

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In India, the incidence of chronic kidney disease (CKD) is rising and as per estimates from 2006, the age-adjusted incidence rates of end stage renal disease (ESRD) is 229 per million population.

Globally, the number of new patients entering renal replacement therapy (RRT) annually is >1,00,000. Owing to the lack of community-based programmes, CKD is usually detected at an advanced stage. The changes in CKD

patients using yoga were reviewed, assessing the renal functions, quality of life (QOL), psychological status and physiological variables, such as systolic blood pressure (SBP), diastolic blood pressure (DBP), intradialysis hypotensive episode and lung function (FEV), biochemical variables like blood urea, serum creatinine, serum sodium, serum potassium, alkaline phosphatase, cholesterol, high density lipoprotein(HDL), triglycerides, erythrocyte, hematocrit and psychological variables like subjective well being, mood, depression, anxiety, stress, sleep quality, disease related self efficacy, fatigue and grip strength. The methods and results of those studies are briefly summarised along with their limitations and suggestions for future research.

The impact of yoga as a complementary intervention for hypertension has been investigated in a number of RCTs with significant improvement since hypertension has been recognised as a major factor responsible for a decline in kidney function in patients with diabetic and non diabetic kidney disease.

Though physical and psychological measures are added to the self report research protocols, potential underlying mechanisms need to be further explored.

**PAPER ID: 83**

## **TO ANALYSE AND COMPILE THE BENEFICIAL EFFECT OF MANTRA ON CANCER**

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Chanting of mantra, recitation of sloka & Music



are reported to be having psycho-physiological applications. In other words, they have direct impact in brain and can be used as a tool for the management of cancer. Mantra is a rhythmic verbal chanting that helps in a great way to restructure the nervous system. It can be recited in many forms viz. silent chanting, lips movement, loud chanting etc. It is based on associative and cognitive powers of mind. The hormones and neurotransmitters throughout the body communicate with each other through distinctive vibrational sympathies i.e., the recitation of chanting produces resonance and rhythmicity effect in brain, especially thalamus. Light sleep makes thalamocortical neurons oscillate periodically and regulate excess firing of neurons probably the production of many neurotransmitters brings multidimensional influence on physical, psychological, social and spiritual aspects of patient's life. At physical level it brings absolute relaxation and eventually very beneficial for setting right the body homeostasis. The phonetic of Sanskrit strikes the palate at multiple reflex points stimulating energy in numerous meridians that awakens dormant parts of brain and enhances the circulation and energy flow throughout the body.

**Keywords:** recitation, Vedic syllables, cancer

**PAPER ID: 84**

## A MODEL FOR INTEGRATIVE ONCOLOGY

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A current lacuna in integrative oncology is a lack of a definitive framework that can

give a comprehensive & dynamic account of major integrative approaches employed in cancer treatment. This gap is often used to weigh negatively on the intelligibility of integrative approaches to cancer treatment. It is the aim of this paper to fill this gap. In this paper, we propose a general model for integrative oncology. The model charts and offers a *unified theory* of the major integrative approaches that have been demonstratively proven to aid in cancer treatment. The model offers a) offer a strong theoretical foundation for integrative oncology; b) redresses issues arising from efficacy of certain integrative approaches and establishes legitimacy of the same; and c) offers insight into how to define case-based integrative approach in cancer treatment.

**Keywords:** Integrative oncology; Model of integrative oncology

**PAPER ID: 85**

## COMPARATIVE STUDY ON IMMEDIATE EFFECT OF SPINAL SPRAY AND SPINAL BATH ON AUTONOMIC VARIABLES AND BLOOD PRESSURE IN HEALTHY VOLUNTEERS

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### Background

Hydrotherapy is a therapeutic modality used in various diseases, among that Spinal bath and spinal spray are considered to enhance the cardiac function. However, there is no known study reporting the effect of spinal bath and spinal spray on autonomic variables in healthy volunteers.



## Methods

Thirty healthy volunteers (15 male) of mean  $\pm$ SD age of  $19.9 \pm 4.5$  years were randomly divided into two groups i.e., spinal spray and spinal bath. Autonomic variables and blood pressure was assessed before and after the intervention using Heart Rate Variability (HRV).

## Result

Both the groups showed a significant change in RR interval along with Heart rate. There was also significant reduction shown in diastolic blood pressure and LH: HF ratio following spinal bath while significant reduction in systolic blood pressure in spinal spray group.

## Conclusion

The study suggests that a session of spinal spray was effective in reducing heart rate and systolic blood pressure, whereas a session of spinal bath was effective in reducing heart rate and diastolic blood pressure along with improving heart rate and bringing sympatho-vagal balance.

## Key words

Hydrotherapy, heart rate variability, spinal spray, spinal bath, vagal tone, blood pressure

## PAPER ID: 86

### A PROPOSAL TO STUDY THE EFFECT OF YOGA AND MEDITATION ON HIPPOCAMPAL VOLUMETRY AND NEUROGENESIS AMONG PEOPLE WITH CHRONIC DRUG RESISTANT EPILEPSY

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**Objective:** Chronic drug resistant mesial temporal lobe epilepsy (MTLE) with mesial temporal sclerosis (MTS) leads to atrophy of the hippocampus due to neuronal loss. Yoga and meditation may reverse this neuronal loss. In this randomised controlled study funded by SATYAM, DST, Govt. of India, we intend to evaluate the hippocampal volumes by voxel-based morphometry, serum cortisol, BDNF, cytokines, heart rate variability, neuropsychological evaluation before and after epilepsy surgery among people with MTLE and MTS. Through an integrated effort and expertise in the fields of clinical epileptology, hippocampal volumetry, neuropsychology, epilepsy surgery, neuropathology and Yoga Centre at NIMHANS, we intend to document the beneficial effects of Yoga and Meditation.

**Methods:** Sixty patients (age range 18-50 years and both genders) will undergo standard pre-surgical evaluation along with hippocampal volumetry, autonomic,



biochemical and neuropsychological assessments 3 months prior to surgery and 6 months after the surgery. Half the patients will undergo structured Yoga and Meditation for 3 months prior to surgery and for 6 months after surgery. The other half will be in the control wait-list group. As a standard of care, all patients will undergo anterior temporal lobectomy and amygdalohippocampectomy. Histopathological study of the resected hippocampal specimen will be undertaken for diagnosis as well as evaluating the extent of neurogenesis. Following surgery, cure or control of epilepsy will be documented as per Engel's classification and correlated with other parameters in this study.

**Expected Results:** In this study, the following results are expected in the cohort randomised to the Yoga & Meditation group in contrast to the control wait-list group; 1. Arrest of progression of the hippocampal atrophy, 2. Increase in the volume of the contra-lateral hippocampus, 3. Decrease in the levels of serum cortisol and cytokines, 4. Increase in the levels of BDNF, 5. Decrease in the heart rate variability, 6. Improvement in the IQ, memory, cognitive functions and quality of life scores.

**Conclusion:** Epilepsy surgery cures or controls seizures in a majority of people with MTLE and MTS. Yoga and Meditation may enhance the beneficial effects of surgery by a number of factors like neurogenesis and better functional organization of the contralateral hippocampus. The outcome of this project may help people with chronic drug resistant epilepsy not only in India, but world-wide.

**Key words:** Yoga, meditation, epilepsy, mesial temporal sclerosis, epilepsy surgery, neurogenesis

PAPER ID: 88

## TRADITIONAL NADI PARIKSHA AND MODERN PULSE WAVE ANALYSIS: A COMPARATIVE STUDY

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The classical texts of *ayurveda* have emphasized the significance of *Nadi Pariksha* in disease diagnosis and *Sarangadhara Samhitha*, *Yoga Rantakara*, *Basavarajeeyam* and *Bhavaprakasha* are the texts which have discussed the importance of *Nadi Pariksha* in succinct set of *slokas*. As part of *Nadi Pariksha* the qualities of *Nadi* were assessed from radial artery which in turn play significant role in assessing *doshas*. As per traditional texts of *ayurveda* the qualities or properties of pulse such as pulse movement (*gati*), speed of the pulse (*vega*), stability of the pulse (*sthiratva*) and hardness of the artery (*kathinya*) play major role in *Nadi Pariksha*. *Ayurveda* has thousands of years of rich experience in *Nadi Pariksha* with strong literature support but is subjective in nature and highly depends on the skill of the physician. In the current context of evidence based research there is a need for studying *Nadi Pariksha* in a more scientific manner. In the recent past pulse wave analysis has gained significant research interest and for the past few years pulse wave velocity and arterial stiffness have shown significant results in number of cardiovascular studies which highlights the research and clinical importance of these modern pulse parameters. It is important to study the relevance of modern pulse parameters in *Nadi Pariksha* with a view to establish the



physiological significance of *Nadi Pariksha*. In this study the traditional methods of *Nadi Pariksha* as defined in *ayurveda* classics were compared with the modern techniques used in pulse wave analysis and the modern pulse measurement techniques and instruments were discussed.

## Keywords

*Nadi Pariksha; gati; vega; sthiratoa; kathinya; pulse wave velocity*

PAPER ID: 89

## CANCER - THEORETICAL PRINCIPLES

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A Theory explaining Basic Mechanism of how Cancer is caused is presented.

From studies in Sukshma Sciences, it becomes apparent that, there exists within each cell, a fundamental composite entity which is basically responsible for causing not only Cancer, but also Obesity, Diabetes and Creation of Anti-bodies - depending on various modifications of this entity, and under various conditions: this entity is basically in form of "Astral Fibres in form of Microtubules, connecting various Genes on Chromosomes to corresponding points in Cell Membrane, where these Astral Fibres assume form of 'Centriole' at their mid-point": there in general exist (i) an Enzyme FILLING these Astral Fibres, thus controlling Intercellular Matrix outside at the "Attachments of these Fibres to Cell Membrane" (for these Microtubules open out into outside at Cell Membrane): this Enzyme thus can get activated / de-activated depending upon stimuli at Intercellular Matrix outside; (ii) a 2<sup>nd</sup> Enzyme which attaches to outside of these Astral Fibres:

these Enzymes thus can get Activated / De-activated upon physical contact with special substances in cytoplasm, not only this, they can instead, also have special property that they become Activated / De-activated when that Astral Fibre gets stretched.

These 2 Enzymes are continuous on Astral Fibre all the way upto Gene at the other end: a special Enzyme exists on this Gene which gets Activated / De-activated, according to Activation / De-activation of the Enzymes on Astral Fibre: this Activation / De-activation of this Enzyme on Gene in turn Activates a corresponding Special Enzyme in Nucleoplasm - which directly TRIGGERS a corresponding Action within cell, viz. Cell Division, or Creation of various substances for various functions (including creation of Anti-bodies).

There also exist a pair of Enzymes co-existing with the above 2 Enzymes, but which produce REVERSE Signals - viz. whenever this "Enzyme on Gene" gets Activated / De-activated, it causes corresponding Actions in Intercellular Matrix outside or in Cytoplasm, due to corresponding Activation / De-activation of these Enzymes inside / outside of the Astral Fibres.

In case of Cancer, the following occurs: 3 special Genes control onset of Cancer in following way: (1) the 1<sup>st</sup> Gene is that Gene within Chromosome which possesses property that, the Enzyme on it gets De-activated at Mis-match of this part of body with Annamaya Kosha (note that it is Annamaya Kosha which directly determines evolution of physical body of a human being, right from time of conception within womb of mother): this in turn activates that Special Enzyme in Nucleoplasm which causes Cell Division; the Activation of the "Enzyme on Gene" simultaneously also causes Reverse



Signals causing (i) Weakening of Intercellular Matrix which ALLOWS space for a new cell to get created, (ii) Stretching of Astral Fibre which not only ALLOWS space for growth of Substance of Cell (which must occur before Cell Division), but also activates an Enzyme within Cytoplasm which instigates this growth; (2) the 2<sup>nd</sup> Gene possesses property that the Enzyme on it gets De-activated whenever the associated Astral Fibre gets stretched, (i) as when the Cell, having been well-nourished, has increased in size to an extent when it will then naturally duplicate itself (which is a NORMAL process), (ii) or even due to extra / unwanted deposits within cell: the De-activation of the Enzyme on this Gene in turn activates this same "Enzyme in Nucleoplasm for Cell Division", enhancing the propensity of the cell to duplicate itself; (3) the 3<sup>rd</sup> Gene possesses property that the Enzyme on it gets de-activated - thereby activating this same "Enzyme in Nucleoplasm for Cell Division" - whenever the Intercellular Matrix just outside Cell Membrane becomes weak: this Weakening of Intercellular Matrix (i) firstly occurs (as a normal process) due to Reverse Signals caused by 1<sup>st</sup> Gene as was already seen, (ii) it can also occur due to attack by germs / toxins at Cell Membrane.

Now the "Enzyme on 1<sup>st</sup> Gene" it can be seen, can be de-activated not only as a natural process during Growth of Body; it can also be seen that "Mis-match of Structure of Cell with Annamaya Kosha" can occur even when the Gene becomes MUTATED (as due to toxic chemicals, etc.).

It can be seen from above discussion how (a) a Mutated Gene will activate the "Special Enzyme in Nucleoplasm for Cell Division" to a large extent, causing a STRONG PROPENSITY for Cell Division; (b) an ADDITIONAL ACTIVATION of this Special Enzyme, TRIGGERING Actual Cell

Division occurs (i) whenever the Intercellular Matrix becomes specially weak due to attack by germs / toxins (or even due to foreign / unwanted matter in the Intercellular Matrix), (ii) or when the Astral Fibre becomes specially stretched either due to unwanted deposits in cell (as occurs due to aging, etc.), or due to continuous invasion of cytoplasm / nucleoplasm by toxic materials which have effect of de-activating the "Enzyme on outside of Astral Fibre" [even toxins deposited just outside cell membrane can, through De-activating the "Enzyme WITHIN Astral Fibre, cause Contraction of Astral Fibre].

It can be seen from this, how (a) a Mutated Gene is primarily responsible for a propensity for Cancer, (b) "Attack at Cell Membrane of Intercellular Matrix by Germs / toxins (which leave Intercellular Matrix weak)", "Unwanted Deposits in cell, as due to aging", also "Imbibing of toxins (which toxins get deposited at outside of Cell Membrane)", especially "continuous invasion of even newly created cells by toxins" (eg. as occurs in smoking and other repeated use of toxic materials) ALL act as TRIGGERING FACTORS for Onset (and continuance) of Cancer.

It may be observed here that all 3 Genes mentioned above controlling Cancer, are Genes which are necessarily involved in Normal Process of Cell Division; also involved is that Special "Enzyme within Nucleoplasm" responsible for Special Function of "Cell Division".



PAPER ID: 90

## DIET ENRICHED IN FRESH COCONUT SATURATED FATS DO NOT ALTER THE ERYTHROCYTE FATTY ACIDS

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**Background:** To determine whether healthy adults who consumed increased amounts of dietary saturated fatty acids (SFA) through fresh coconut exhibited any changes in red blood cell [RBC] fatty acid profile when compared to increased dietary monounsaturated fatty acids (MUFA) in a combination of ground nuts and ground nut oil.

**Methods:** Eighty residential healthy volunteers were randomised into 2 groups of 40 each and fed for 90 days with 100g of fresh coconut/day on diet C and 45g groundnuts plus 22g ground nut oil/day on diet G, respectively. Blood samples were collected and RBC was separated. Dietary fatty acid (FA) composition and RBC FA composition was analysed using GC-FID.

**Results:** General characteristics of both the diet groups at the baseline were similar. Coconut diet was high in SFA (36g) and ground nut diet was high in MUFA (20.3g). Total fat content of both the meals was 40% of the calories. There were no major changes in FA composition in either group, although significant changes were seen in minor fatty acids in both groups (C14, C22 and C24 respectively). There was a significant increase in the levels of 20:3 n6 and decrease in 18:1 (P<0.05) in coconut group.

**Conclusions:** This data proposes that regular consumption of 100 g coconut, containing high levels of SFA, does not have any harmful effect on RBC FA composition. Since RBC FA composition is accepted as a dependable surrogate of tissue fatty acid composition, it can be said that coconut consumption has no harmful effect on tissue fatty acid composition.

**Key words:** Coconut, saturated fats, RBC fatty acids

PAPER ID: 91

## EFFECT OF INTEGRATED APPROACH TO YOGA THERAPY ON TRIDOSHA STATUS AND QUALITY OF LIFE IN PATIENTS WITH MULTIPLE SCLEROSIS: A PILOT STUDY

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**Background:** The effect of Integrated Approach to Yoga Therapy (IAYT) has been studied in healthy and diseased individuals showing better performance in various motor skills, improving sleep quality and memory, mental processing speed, attention, and executive functions. This study aims at evaluating the effect of IAYT on Tridosha status and quality of living (QOL) in patients with Multiple Sclerosis (MS) with an Ayurvedic understanding.

**Methodology:** From a neuro-rehabilitation center in Germany, thirty-two patients (fifteen males & seventeen females) in the age range of 28 - 83 (55.90625±27.9) years, who were diagnosed by the neurologist to be suffering from MS were studied. Each patient was assessed before and after completion of 4 weeks of Yoga therapy intervention: IAYT,



for 5 days a week, of 60 minutes each session. Assessments included standardized Tridosha assessment, Sleep quality, Disability Index, Mini Mental Scale Examination (MMSE), Oral Medicine, and Symptoms score. Data was analysed using paired samples T-test from Statistical Package for the Social Sciences (SPSS) version 10.

**Results:** Within group analysis showed that IAYT intervention was effective in bringing Tridosha balance by reducing Vata scores and increasing Kapha and Pitta scores. It also brought significant reduction in Body Mass Index (BMI), pulse rate, systolic blood pressure, sleep latency and several systemic symptoms specific to MS. There was also significant improvement seen in Disability Index and MMSE Score. Also, considerable reduction was noticed in Diastolic blood pressure and need for oral medication.

**Conclusion:** This pilot study revealed that 4 weeks of integrated yoga intervention may be useful in improving clinical symptoms, Disability Index, and sleep quality by bringing Tridosha balance in MS patients.

**Key words:** IAYT, Tridosha, Multiple Sclerosis, Integrated yoga, Yoga and QOL.

PAPER ID: 92

**MOUDING LIFESTYLE  
WITH MORAL ECHANGES  
& REFORMATIONS NEEDED  
IN EDUCATION INDUCTING  
COUNSELLING, GUIDANCE AND  
YOGA EDUCATION**

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**Vision:** To produce holistic peaceful and progressive healthy Society

**Mission:** Preventative and restorative lifelong health solutions to the whole World.

**A Nation which educates their youth in life science with all minute details will flourish in all fields.**

- To impart sound and balanced education to young minds provides adequate physical, mental and moral training and preparing them for a successful and courageous life.
- To progress in the bigger strides, setting records and conquering every challenge that comes on their way.
- To face many challenges of an emergent global community.

**Moving on to the core main aspects: Counseling guidance & Yoga in Education.**

- Counseling is in itself process which involves a person essentially a counselor who helps students understand the causes for their problems, guides and finally helps them overcome personal, emotional, professional issues.
- Counseling practices are Stress, anger, and conflict management which is focused on Deep-relaxation approaches, Strategies for dietary control, Life balance approaches and much more
- Yoga works to bring fitness and vigor to physical body and also helps harness our will and emotions and also used to treat specific ailments and helps in all round personality development.
- Pranayama and Meditation on the other hand help develop a steady mind, strong will power and sound judgment.

**Training imbibes comprehensive philosophy which includes**

- **Objective- Body**
- **Subjective-Soul and Mind.**



**Breathe...May the Whole World enjoy  
Happiness Prosperity& Peace**

**PAPER ID: 93**

## **EFFECT OF SPROUTED FENUGREEK SEEDS POWDER ON BLOOD GLUCOSE LEVELS IN TYPE 2 DIABETES**

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**Background:** Diabetes mellitus (DM) is a syndrome of chronic hyperglycemia due to relative insulin deficiency, resistance or both. Germination of fenugreek seeds enhances the total phenolic content, hypoglycemic and antioxidant activity compared to raw fenugreek seeds. The present study was designed with an objective to study the effects of consumption of sprouted fenugreek seeds powder on blood glucose levels in individuals with Type-2 Diabetes Mellitus.

**Materials & methods:** 30 subjects were randomly divided in to two groups: study group consisted of 15 subjects (age 57.67±7.66 years) and control group consisted of 15 subjects (age 60.00±8.32 years). Study group received IAYT (Integrated Approach Yoga Therapy) along with one teaspoon of Sprouted fenugreek seeds powder mixed with 200ml of warm water (95° to 98°F) twice daily for four days. Control group received IAYT for four days. Fasting blood sugar levels, post prandial blood sugar levels were measured before and after four days of intervention.

**Result:** Within group analysis showed a significant reduction in post prandial blood glucose ( $p<0.05$ ) levels in the study group. No significant changes were observed in weight, fasting blood sugar levels, systolic blood pressure, diastolic blood pressure and BMI

in both study and control groups. However, a significant reduction in pulse rate ( $p<0.05$ ) was observed in control group. No significant changes were observed in between group analysis.

**Conclusion:** Consuming sprouted fenugreek seeds powder for four days twice a daily helps in reducing post prandial blood sugar levels in diabetic patients

**Key Words:** Fenugreek; sprouted; Type 2 DM; Blood glucose levels

**PAPER ID: 94**

## **TRADITIONAL SYSTEMS OF DISEASE DIAGNOSIS**

**Dr. K. Shiva Kumar** <sup>2</sup>Dr.C. Krishna Raju <sup>3</sup>K.  
Uma Padmaja <sup>4</sup>K. Srichandan  
<sup>1</sup>Research Scholar, SVYASA  
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### **Background**

Ayurveda which was part of India and Chen Chiu known as Traditional Chinese Medicine (TCM) of China were as old as 3000 years and they have been sharing a common tradition of finding three humours Kapha (Phlegm), Pittha (Heat) and Vata (Wind). Their diagnostic methods and patterns, etiology and pathology were all much similar even though the treatment modalities and the herbs used were a bit apart from one another due to different geographical conditions.

Both these systems monitor the pulses on the radial artery with varied mapping of pulse characteristics to organs. TCM maps to the meridians and element points that are to be treated, while Ayurveda also involves balancing of vital layers through marma and massage.

**Methodology:** Pulse measurements made on subjects with various ailments were carried



out from a TCM perspective and perspective of traditional Nadi pariksha which finally leads to the correspondence of the five elements.

### Conclusion

Dividing the 12 Meridians of TCM into 3 groups consisting of 4 meridians each is equivalent to balancing of the energies in these 3 groups, rather than balancing of energies in all 12 meridians.

Pulse characteristics can be mapped to match the energy levels in the three groups and these pulse characteristics can be very well named as Kapha, Pittha and Vata.

PAPER ID: 95

### CORDYCEPS SINENSIS: ITS IMPACT ON CANCER

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Assistant Professor, SVYASA, Bengaluru  
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**Background:** Cancer is caused by six modifications to genes or gene expression. Its causes can be both genetic mutations, and epigenetic dysfunction due to stress. In this light, we present an analysis of the antioncogenic effects of the Himalayan fungus *Ophiocordyceps Sinensis* (commonly called *Cordyceps Sinensis*), a well-known Ayurvedic *Dravya*, and a proposal for its assessment.

**Results:** Ancient *Nighantu* texts name *C. Sinensis* as '*Keeda Jadi*'. Modern research has largely centred on its *Shukra* increasing, aphrodisiac, properties, which have made it one of the most highly priced Ayurvedic *dravyas* in modern India, and an increasingly rare endangered species in its natural habitats above 3,800m in the mountains of Sikkim, Nepal and Tibet. Modern research has shown that it possesses strong immunomodulatory properties, and improves overall health. It also has antioxidant and adaptogenic properties, all of which suggest that it should

be a powerful cancer preventative.

**Discussion:** Ayurveda calls cancer, '*Arbuda*', and names many herbs, which may help in its prevention and treatment. Widely available anti-carcinogenic preventative herbal *dravyas* include *Haridra* (Turmeric), *Ardraka* (Ginger), and many others. It is known in the west that, natural chemotherapy agents can be prepared from a wide variety of drugs and fruits including Amygdalin and Essiac (both strongly and wrongly attacked by the AMA on behalf of the drug industry), Guanabana (Sour Sop), and Indian Lemon. To determine the kind of antioncogenic power exerted by *C. Sinensis* requires detailed assessment in both animal models and humans. That we outline.

PAPER ID: 96

### ABSTRACT FOR POSTER PRESENTATION ROLE OF YOGA IN CARDIAC AILMENTS

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SDM Ayurveda College Udupi  
Sukanya.kkvp@gmail.com

Yoga is the traditional art and science. Every art has its own tone and rhythm. The History of yoga stretches bulk as far as ancient India, when people practiced it into increase their tranquillity and spiritual insight. Today, whole world is enjoy helping them to relax and increase their flexibility. Yoga could boost heart health which is one of the marvellous discovery of present scenario calming effects of yoga helps in cardiac arrest cases, post-surgery states, heart attacks. Yoga could be a tremendous benefit to manage the stress, depression, anxiety, hypertension. by practicing yoga, we are including generous slice of nature in our daily lives.

Performing a variety of yoga postures gently stretches and exercises muscles. this helps them become more sensitive to insulin, which is important for controlling blood sugar. Deep breathing can help lower blood



pressure, mind calming meditation, another key part of yoga quiets the nervous system and eases stress. These improvements may help prevent heart disease and can help people with cardiovascular diseases.

Many aspects of yoga and a variety of yogic properties are used for the management of cardiac issues. Scientific evidences and parameters alone can define the effects of yoga from a therapeutic aspect. Yoga values more in the awareness and in the concentration thus differentiates it from the normal exercises. "Ardhakati Chakrasana", "Bhujangasana" and "Pranayama" must dealt in detail in the special posture "Sethubandhasana" for indicated cardiac patient after angioplasty. Special receptors called barrow receptors in the artery goes into the brain, the artery will be toned and balanced by improving this practise. That is why even cardiac issues have an adverse effect on them.

Thus, Yoga is a heritage of yesterday, need of today and it can be a culture of tomorrow. It's worth to say "No Yoga, No Peace. Know Yoga, Know Peace. Now Yoga, Now Peace".

**PAPER ID: 97**

## **A COMPARISION IN HEART RATE VARIABILITY WHILE PERFORMING COGNITIVE TASK BY YOGA PRACTITIONERS AND NON-YOGA PRACTITIONERS - A CROSS SECTIONAL STUDY**

**SOWJANYA MALLEMPATI, AMIT KUMAR SINGH, DEEPESHWAR SINGH**  
Swami Vivekananda Yoga Anusandhana  
Samsthana, Bengaluru

**BACKGROUND:** Understanding how yoga practices influence cognitive functions and associated psychophysiological changes in children and college going students is still unexplored. Therefore, the present study compared the executive functions and heart rate variability in yoga practitioner and non-

yoga practitioner.

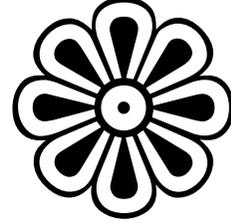
**METHOD:** A total of thirty-eight normal healthy male subjects with age range 18-26 years were recruited in this study. Twenty male participants (n=20; mean  $\pm$  SD, age: 22.4 $\pm$  4.2) were recruited from a yoga institute as an experimental group and 18 (n = 18; mean  $\pm$  SD, age: 23.17 $\pm$  5.04) age and gender matched participants were recruited from a medical college as a control group for the study. All participants performed a Stroop color-word task (SCWT) consists of three tests i.e., neutral, congruent and incongruent to assess executive function. Simultaneously, EKG was assessed using BIOPAC (MP 100). Both groups participants performed SCWT as fast as possible without doing any mistake. For any mistake, the participants were asked not to stop the practice and keep continuing. The participants were given thirty seconds for each task.

**RESULT:** Yoga participants showed higher accuracy (p<0.05) on executive functions and lower responses time (p<0.05) in incongruent task comparted to non-yoga practitioners. The changes in heart rate variability showed higher LF in yoga practitioners while performing SCWT, which is known to the sympathetic arousal. This may be due to the high vigilant in yoga practitioners compared to non-yoga practitioners.

**CONCLUSION:** HRV suggest the increase in sympathetic arousal mainly due to higher demand of focused attention. It is known that yoga practice increases the cardiac activity during the utmost demand without getting anxiety and stress. Yoga practice improves brain functions which help several cognitive demands in our day to day life.

# *With Best Compliments*

*You have to grow from the inside out. None can teach you, none can make you spiritual. There is no other teacher but your own soul*



## **Ramamurthy**

BJP leader, Jayanagar

Ex. Chairman, Standing Committee for Major Public Works

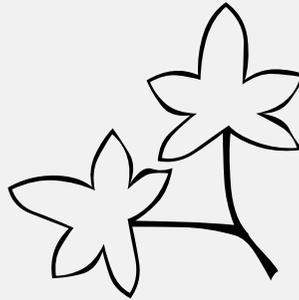
Ex. BBMP Member, Pattabhiramanagar Ward - 168

Jayanagar, Bengaluru - 560 011

Contact No: 98450 00683

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*In a conflict between the heart and the brain, follow your heart*



## **Nagaratna Ramamurthy**

Councilor, Pattabhiramanagar Ward - 168

Jayanagar, Bengaluru - 560 011

# ***With Best Compliments***



*In a day, when you don't come across any problems - you can be sure that you are travelling in a wrong path*

## **B Somashekar**

Ex. Chairman, Standing Committee for Major Public Works

Ex. BBMP Member Ward - 179 Shakambarinagar

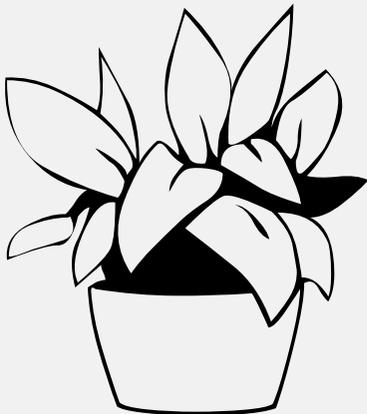
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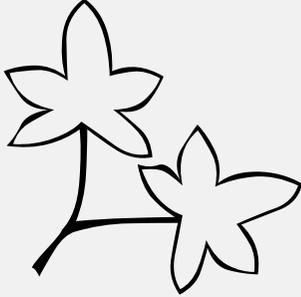
*Dare to be free, dare to go as far as you're thought leads, and dare to carry that out in your life*

## **Malathi Somashekar**

Councilor, BBMP Shakambarinagar Ward

Contact No: 98451 55479

# ***With Best Compliments***



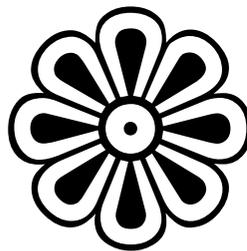
*All love is expansion, all selfishness is contraction. Love is therefore the only law of life. He who loves lives, he who is selfish is dying. Therefore, love for love's sake, because it is law of life, just as you breathe to live*

## **N R Ramesh**

BJP, Leader, Bengaluru City, Bengaluru  
Ex. BBMP Member, Yedeyoor Ward, Bengaluru  
Contact No: 98800 11999

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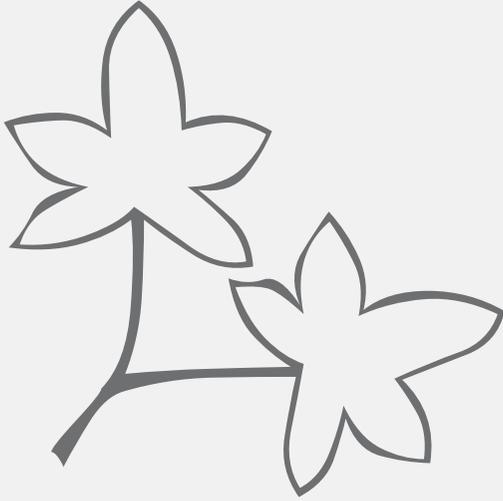
*Be not afraid of anything. You will do Marvelous work. It is Fearlessness that brings Heaven even in a moment*



## **BBMP Member**

Jayanagar East Ward - 170  
35<sup>th</sup> Cross Road, 18<sup>th</sup> Main Road, 4<sup>th</sup> T- Block  
Jayanagar, Bengaluru - 560 041

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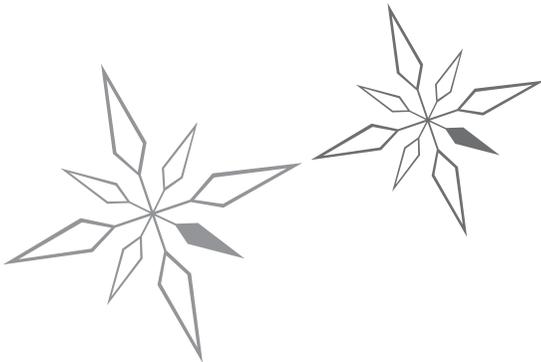


*The great secret of true success, of true happiness, is this: the man or woman who asks for no return, the perfectly unselfish person, is the most successful*

## **Nagaraj**

Councilor, BBMP, Bayrasandra Ward  
Ex. Opposition Leader BBMP  
Ex. Chairman of Works Committee  
Contact No: 94484 80777

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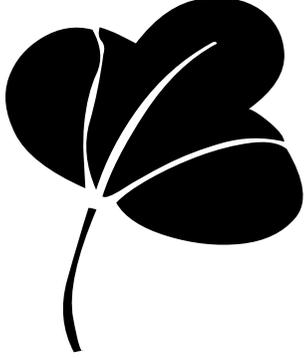


*We are what our thoughts have made us; so take care about what you think. Words are secondary. Thoughts live; they travel far*

## **B N Vijaykumar**

MLA, Jayanagar Assembly Constituency, Bengaluru  
Contact No: 94480 75433

# With Best Compliments



*Feel nothing, know nothing, do nothing,  
have nothing, give up all to God, and say  
utterly, 'Thy will be done.' We only dream this  
bondage. Wake up and let it go*

## **Dr. A H Basavaraju**

Secretary, OBC Morcha, BJP

Ex. Leader of the Opposition BJP

No. 1778, 14<sup>th</sup> Main Road, 34<sup>th</sup> Cross

Banashankari 2<sup>nd</sup> Stage, Bengaluru - 70

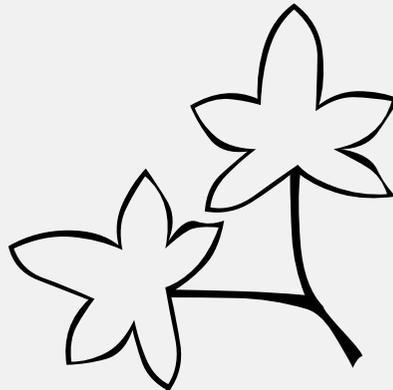
E-mail: ah.basavaraju68@gmail.com

Office: 080 - 2671 2988 | Home: 080 - 2671 7527

Mobile: 98450 61887

# WITH BEST COMPLIMENTS

*Was there ever a more  
horrible blasphemy than  
the statement that all  
the knowledge of God is  
confined to this or that  
book? How dare men call  
God infinite, and yet try to  
compress Him within the  
covers of a little book!*



## **Poornima N R Ramesh**

Councilor, BBMP, Yediyur Ward

Bengaluru

# With Best Compliments

*This is a great fact: strength is life; weakness is death. Strength is felicity, life eternal, immortal; weakness is constant strain and misery, weakness is death*



## **Hotel Kadamba Veg.**

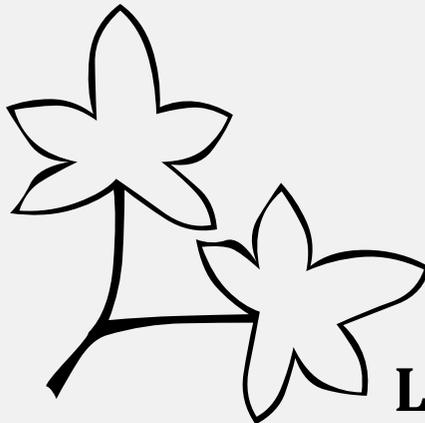
Modi Hospital Road, Basaveshwaranagar  
Bengaluru

## **Hotel Kadamba Veg.**

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Bengaluru

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*Man is to become divine by realizing the divine. Idols or temples, or churches or books, are only the supports, the help of his spiritual childhood*



## **Laxmi Kantha**

Bengaluru City BJP General Secretary  
Mobile: 94480 58720

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*Astrology and all these mystical things are generally signs of a weak mind; therefore as soon as they are becoming prominent in our minds, we should see a physician, take good food, and rest*

## **Naresh Kumar**

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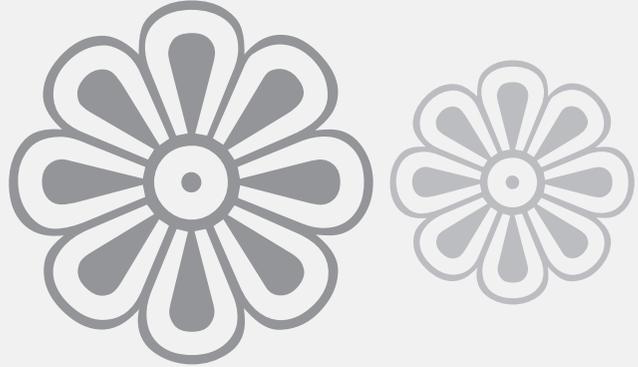
*All power is within you. You can do anything and everything. Believe in that. Do not believe that you are weak; do not believe that you are half-crazy lunatics, as most of us do nowadays. Stand up and express the divinity within you*

## **Dr. Umesh Babu**

Senate Member, RGUHS, Bengaluru &  
Chairman, Hill Side Group of Institutions  
Kanakapura Road, Bengaluru

# WITH BEST COMPLIMENTS

*The only religion that ought to be taught is the religion of fearlessness. Either in this world or in the world of religion, it is true that fear is the sure cause of degradation and sin. It is fear that brings misery, fear that brings death, fear that breeds evil. And what causes fear? Ignorance of our own nature*

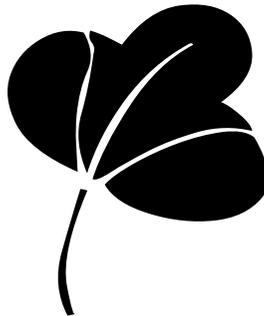


**Basavaraj**

Chairman, Grama Panchayat, Kallabalu  
Jigani Hobli, Anekal Taluk, Bengaluru

# With Best Compliments

*The Heart and core of everything here is good, that whatever may be the surface waves, deep down and underlying everything, there is an infinite basis of Goodness and Love*



**Hemanth Giriya**

Navakar Granites & Marbles  
# 60/B, 100ft. Ring Road, Jigani Industrial Area  
Bengaluru South - 560 105  
Mobile: 98453 33330

# With Best Compliments



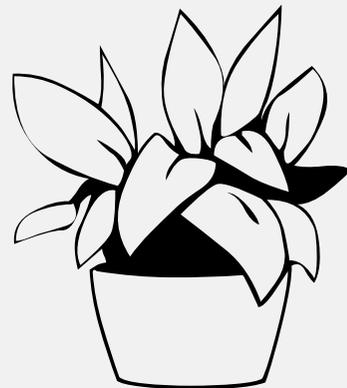
*Our duty is to encourage everyone in his struggle to live up to his own highest idea, and strive at the same time to make the ideal as near as possible to the Truth*

**M Dinakar**

Neha Infrastructures, Bengaluru  
Mobile: 90363 63737

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*He is an atheist who does not believe in himself. The old religions said that he was an atheist who did not believe in God. The new religion says that he is an atheist who does not believe in himself*

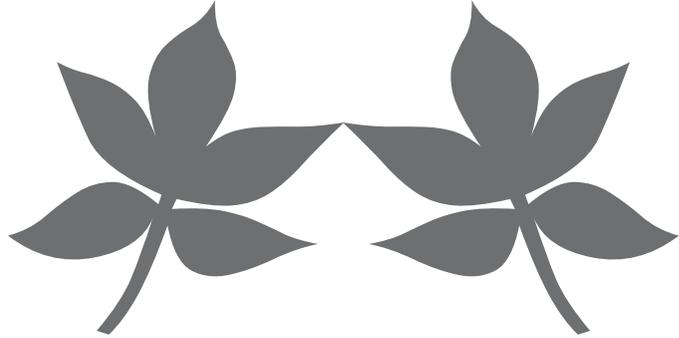


**Ganesh Stores**

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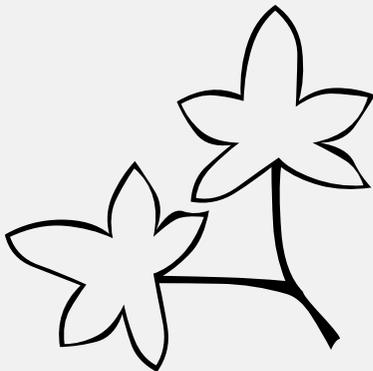
*If faith in ourselves  
had been more  
extensively taught  
and practiced, I am  
sure a very large  
portion of the evils  
and miseries that  
we have would have  
vanished*



**Vijayashree Hospitals**  
APC Circle, Jigani, Bengaluru

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*The will is not free - it  
is a phenomenon bound  
by cause and effect - but  
there is something behind  
the will which is free*



**Dr. B R Ramakrishna**  
Athreya Arogya Dhama  
Banashanakari 2<sup>nd</sup> Stage, Bengaluru  
Mobile: 99025 43943

# With Best Compliments

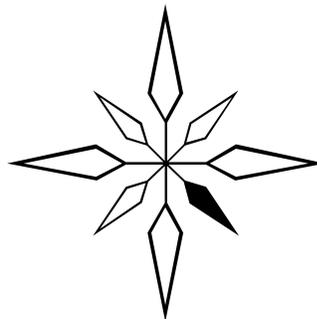


*Take up one idea. Make that one idea your life - think of it, dream of it, and live on that idea. Let the brain, muscles, nerves, every part of your body, be full of that idea, and just leave every other idea alone. This is the way to success*

**Pragathi Group of Institutions**

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*Now is wanted intense Karma-Yoga with unbounded courage and indomitable strength in the heart. Then only will the people of the country be roused*

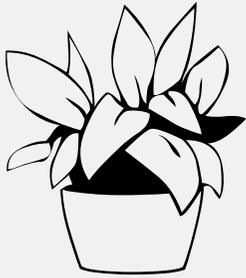


**Dr. Chandrashekar**

Director, Cauvery Hospital, Bannur Road, Mysore  
Contact No: 94480 47004 / 953825001

# *With Best Compliments*

*We must be Bright and Cheerful,  
long faces do not make Religion*



## **Prabha Eye Clinic & Research Centre**

# 504,40<sup>th</sup> Cross, 8<sup>th</sup> Block, Jayanagar

Bengaluru - 560 070 | Ph: 080-22444141

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Ph: 080-2672 2214

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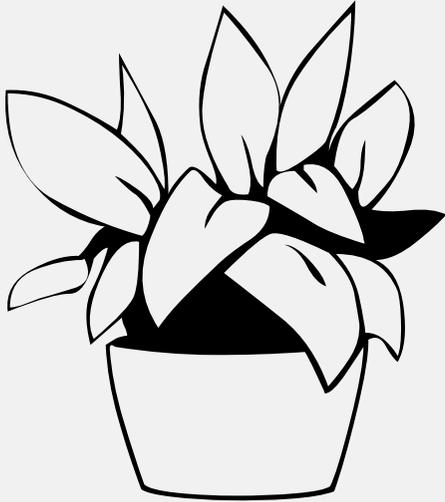


*In a day, when you don't  
come across any problems,  
you can be sure that you are  
travelling in a wrong path*

**Lasha Shetty**

Bengaluru

# With Best Compliments



*We reap what we sow we are the makers of our own fate. The wind is blowing; those vessels whose sails are unfurled catch it, and go forward on their way, but those which have their sails furled do not catch the wind. Is that the fault of the wind? We make our own destiny.*

**Well-wisher**

# *With Best Compliments*

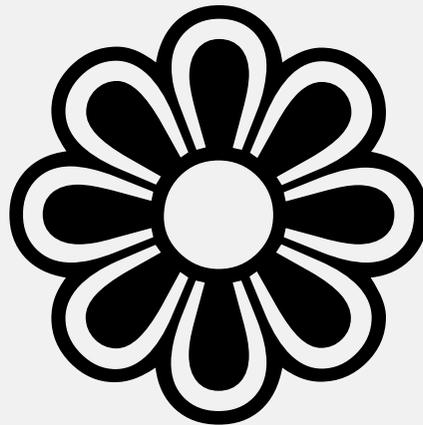


*If in this hell of a world  
one can bring a little  
joy and peace even for  
a day into the heart  
of a single person,  
that much alone is  
true; this I have learnt  
after suffering all my  
life; all else is mere  
moonshine...*

**B R Surya Narayan Rao**  
Chairman, Promochem PVT limited  
Peenya, Bengaluru  
Mobile: 80670 12127

*Put the good before them, see how eagerly they take it, see how  
the divine that never dies, that is always living in the human...*

*With  
Best Compliments*



**Surendra Kedia**

Executive Director

Advanced Manjushree Packaging Solutions

Bengaluru – 560 099

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# ***With Best Compliments***

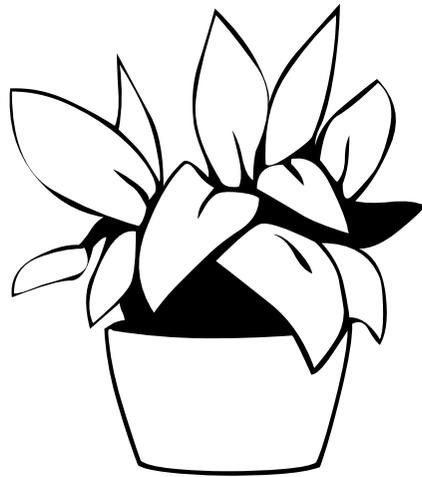
*A tremendous  
stream is flowing  
toward the ocean,  
carrying us all  
along with it; and  
though like straws  
and scraps of paper  
we may at times  
float aimlessly  
about, in the long  
run we are sure to  
join the Ocean of  
Life and Bliss*



**K Prakash Shetty**  
Chairman, MRG Hospitality &  
Infrastructure Pvt. Ltd.

*Take up one idea. Make that one idea your life - think of it, dream of it, and live on idea. Let the brain, muscles, nerves, every part of your body, be full of that idea, and just leave every other idea alone. This is the way to success*

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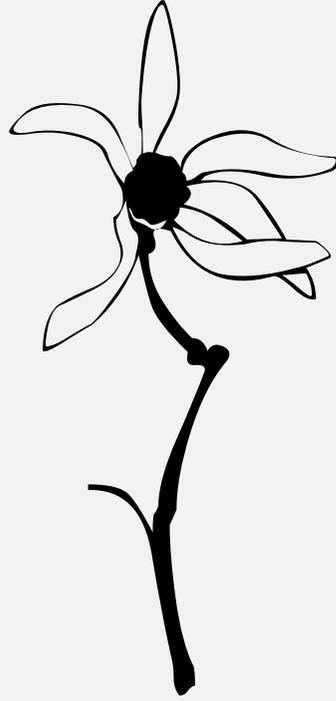


**Chandrashekar R M**

Ravi Constructions, Anekal, Bengaluru

Mobile: 98454 31858

*Above all, beware of compromises. Hold on to your own principles in weal or woe and never adjust them to others' "fads" through the greed of getting supporters. Your Atman is the support of the universe-whose support do you stand in need of?*



*With  
Best Compliments*

**M Krishnappa**

MLA, Bengaluru (South)

Assembly Constitution

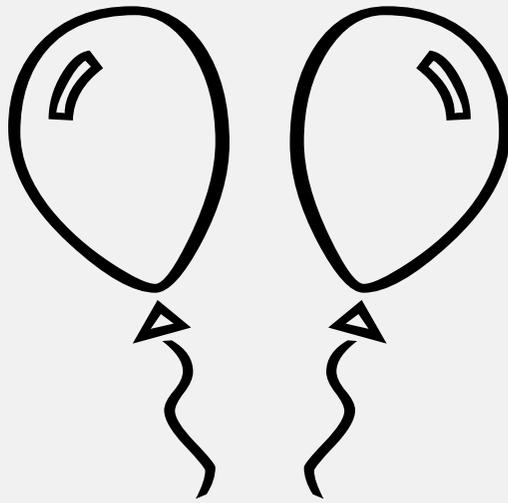
Ex. Deputy Chairman

Karnataka Raste Sarige Samsthe

Bengaluru

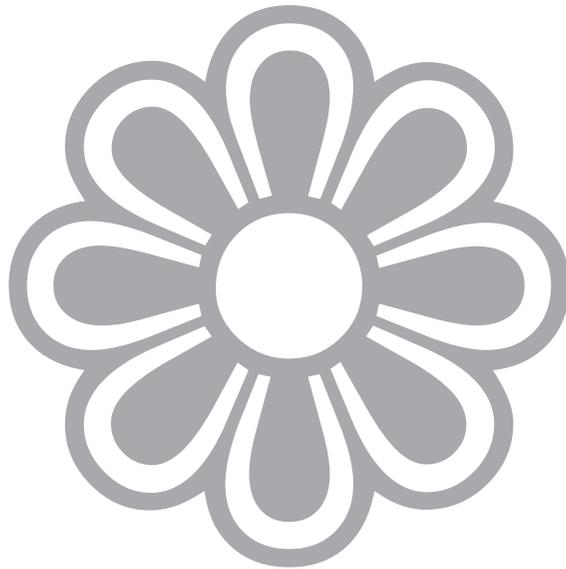
*All who have actually attained any real religious experience never wrangle over the form in which the different religions are expressed. They know that the soul of all religions is the same and so they have no quarrel with anybody just because he or she does not speak in the same tongue*

*With  
Best Compliments*



**A Balakrishna Hegde**  
Chartered Housing, Bengaluru

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*This is the first lesson to learn: be determined not to curse anything outside, not to lay the blame upon anyone outside, but stand up, lay the blame on yourself. You will find that is always true. Get hold of yourself*

**M&N Products  
and Services Pvt. Ltd.**  
Bengaluru



Vivekananda Yoga Anusandhana Samsthana, (VYASA in short, translated as Vivekananda Yoga Research Foundation) was established in the year 1984 with a vision of making yoga as a socially relevant science. Following the path breaking work in evaluating the therapeutic use of yoga in the management of bronchial asthma, the institution was recognized as a Scientific & Industrial Research Organization (SIRO) from the Department of Scientific & Industrial Research, Ministry of Science & Technology, Government of India in the year 1988. The scientific accomplishments thereafter and the disciplined education based on the science and philosophy of yoga resulted in receiving University affiliations from Bangalore University's Faculty of Sciences. Since then VYASA has been offering Doctoral programs in yoga & allied sciences to qualified students. The quality of education imparted at VYASA earned it the recognition as a Deemed-to-be University (status of an independent University) by the Ministry of Human Resource Development, Government of India in the year 2002. The same year the university was renamed as Swami Vivekananda Yoga Anusandhana Samsthana, (S-VYASA).

The Govt. of India, Ministry of Health & Family Welfare, Department of AYUSH has accorded the status of Center of Excellence in Yoga for S-VYASA. And also S-VYASA has been designated as ICMR Center for Advanced Research in Yoga and Neurophysiology (ICMR CAR Y & N; 2007-2012).

## 1. Recognitions

- Scientific and Industrial Research Organization (SIRO) - 1988
- Deemed to be University, MHRD, Govt. of India - 2002
- ICMR Center for Advanced Research in Yoga and Neurophysiology [ICMR CAR Y & N] - 2007-2012
- DST-CSI - 2011-2013
- Center for Excellence in Yoga by Dept. of AYUSH - 2011

## 2. Accomplishments

- International Journal of Yoga (IJOY) - the first yoga journal in PubMed
- More than 450 Research Publications in national and international journals
- 25 candidates have completed Ph.D.
- Conducted 20 International Conferences
- DST - FIST supported Lab

## 3. Major Areas of Research

- Physiological effects of yoga practices
- Therapeutic applications of yoga
- Yoga for rehabilitation
- Yoga for perception and performance
- Higher states of consciousness

## 4. Infrastructure

- Molecular Biology Laboratory
- Autonomic Function Testing and Exercise Physiology Laboratory
- Sleep Laboratory (Polysomnography)
- Cognitive Neuroscience Laboratory
- Psychology Laboratory
- Bio-Energy Laboratory

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**Anusandhana Samsthana**

Deemed University  
Established under Section 3 of the UGC Act, 1956

## Academic Programmes

Admissions for 2018-19

SNo	Name of the Programme	Duration	Eligibility
1	YIC (Yoga Instructor Course)	1 month	10, +2 / PUC / 2 years Diploma
2	MSc (Yoga Therapy) *	2 years	10, +2 / PUC, any Under Graduate (UG) programme
3	MSc (Yoga Consciousness) *	2 years	10, +2 / PUC, any Under Graduate (UG) programme
4	PGDYT (Post Graduate Diploma in Yoga Therapy) *	15 months	10, +2 / PUC, any Under Graduate (UG) programme
5	MD (Yoga) *	3 years	10, +2 / PUC + any Medical Graduation
6	PhD (Yoga) *	As per UGC Regulations	10, +2 / PUC, any Under Graduate (UG) + Post Graduate (PG) programme

**Note:** \* For all the Programmes YIC is mandatory

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- 250 bed inpatient capacity
- More than 30 years in patient care for prevention, treatment and rehabilitation.



## What we do?

- According to ancient Indian texts, the origin of the disease is in the Mind, in the form of stress (Adhi), which manifests in the body as physical ailment (Vyadhi)
- Holistic approach through IAYT, Naturopathy, Ayurveda, Satvik Diet, Physiotherapy, counseling for removing both Adhi and Vyadhi.

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- For prevention of diseases and promotion of health
- Management of Non-communicable diseases
- Rehabilitation of Cancer, Degenerative diseases and Mental disorders



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(Deemed to be University, established under Section 3 of the UGC Act, 1956)



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- ▶ An EVIDENCE- BASED MEDICINE
- ▶ Holistic approach with non-invasive treatments
- ▶ State-of-the-art infrastructure including laboratories
- ▶ Discover the self in you and experience the yoga way of life
- ▶ Become a specialist in Mind-Body Medicine
- ▶ Learn and experience nature

## Achievements:

- MoUs with about 43 Universities and Research Centers around the world.
- Trained nearly 50,000 Yoga Teachers in India and Abroad.
- VYASA has spread in 56 cities in India and 36 Countries across the Globe.
- Major Research collaboration with 10 Organizations.
- Major Research International collaborations with 16 Organizations.
- Approval of 12B Status by UGC on 2014

## Recognitions:

- Cognitive Science Initiative Research, Dept. Science of Technology, Govt. of India (DST-CSI)
- 'Center for Advanced Research in Yoga and Neurophysiology' (ICMR CAR Y&N) recognized by the Indian Council of Medical Research, New Delhi for the period 2007-2012.
- 'Deemed to be University', as declared by the Ministry of Human Resource Development, Government of India, New Delhi, through the University Grants Commission (No. F. 9-45/2001. U.3).
- 'DST-FIST' sponsored department i.e., Dept. of Science and Technology, Govt. of India Fund for Improvement of Science and Technology Infrastructure in Universities and Higher Educational Institutions (No. SR/FST/LSI-142/2000)
- One of the four premier Yoga Institutes in the country as recognized by the University Grants Commission (DD NO. F.B-1/1993)
- 'Center of Excellence' recognized by the Department of AYUSH, Ministry of Health and Family Welfare, Govt. of India, New Delhi.
- 'Scientific and Industrial Research Organization (SIRO), as certified by the Department of Scientific and Industrial Research, Ministry of Science and Technology, Govt. of India, New Delhi (No. 14/43/1988-TU-V).

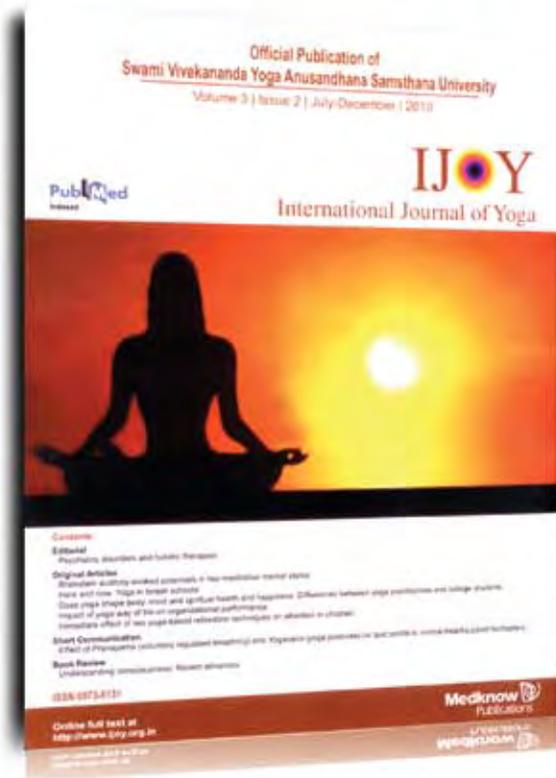
## Accomplishments:

- Scientific Journal of S-VYASA - International Journal of Yoga (IJOY) - the first yoga journal indexed in PubMed.
- More than 300 Research Publications in National and International peer reviewed indexed Scientific Journals.
- 29 candidates have completed PhD.
- Conducted 20 International Conferences on Yoga Research and its Applications.
- Received Research Developmental Grant from Department of AYUSH, Govt. of Karnataka, India

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- ▶ ISSN: 0973-6131
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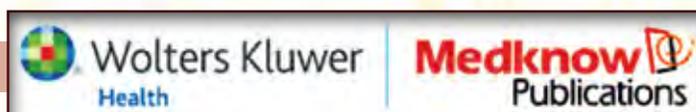
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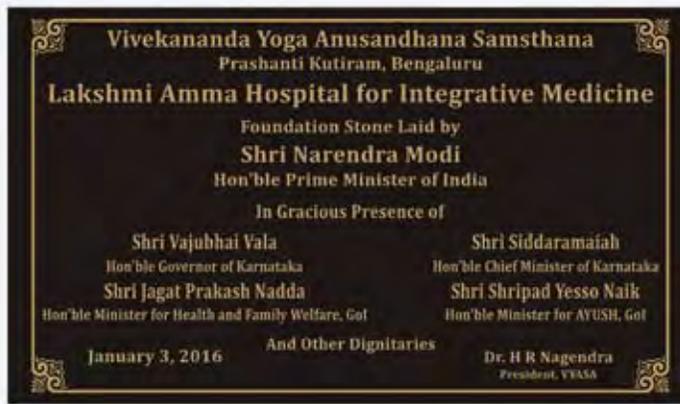
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### Oncology

Breast cancer stage 1, 2, 3, 4; Colon, Prostate, Blood, Myelomas.

### Promotion of Positive Health (PPH)

### Pulmonology

Bronchial Asthma, Nasal Allergy, Chronic Bronchitis.

### Cardiology

High BP, Low BP, Heart Disease (CAD).

### Psychiatry

Anxiety, Depression, Psychosis, OCD, Mental retardation

### Rheumatology

Arthritis

### Metabolic disorders

Diabetes.

### Spinal disorders

Acute and Chronic Back Pain, Lumbar Spondylosis, Disc Prolapse, Scoliosis, Neck Pain.

### Gastroenterology

Gastritis, Peptic Ulcer, Irritable Bowel Syndrome (IBS), Ulcerative Colitis

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