

RESEARCH OUTCOME OF COMPLETED RESEARCH PROJECTS

S. No.	Title of the project	In whose name has the project been sanctioned	Objectives	Outcome
1.	Evaluation of effect of some Hatha Yogic exercises on primary and secondary hypertension with special references to Body Immunity	Dr. Usha, Reader in immunopathology, Dr. R.G. Singh, Prof. & Head, Deptt. of Nephrology, Institute of Medical Sciences, Banaras Hindu University, Varanasi	To study the influence of simple Yogasanas by Hypertension patients on symptomatology, bio-chemical and hematological findings.	After Yoga there was improvement in symptomatology and fall of blood pressure. Effect was more marked in those who did the simple Yogasanas and relaxation asanas.
2.	To evaluate the efficacy of Dhouti Kriya (Gastro-intestinal Dialysis) in comparison to other yogic/traditional methods of dialysis/ purification with special reference to cellular and humoral immunity	Dr. Usha, Reader in immunopathology, Dr. R.G. Singh, Prof. & Head, Deptt. of Nephrology, Institute of Medical Sciences, Banaras Hindu University, Varanasi	To study the effect of Shankha Prakshalan on Chronic Renal Failure.	Shankha Prakshalan was very effective in lowering the blood urea and blood pressure of the patients. Although GI Dialysis also produced comparable results to that of Shankha Prakshalan, fall of blood pressure and blood urea was comparatively less in GI Dialysis
3.	Role of Vipassana Meditation on attention, memory span and learning abilities among the student population	Dr. G.P. Dubey, Head, Centre of Psychosomatic and Biofeed - back Medicine, Faculty of Ayurveda, Instt. of Medical Sciences, Banaras Hindu University, Varanasi	To evaluate the beneficial effect of vipasana meditation and pranayama practice on memory, learning and attention span.	The study concluded that Vipasana meditation has beneficial role in the improvement of mental health status. A better and improved psychomotor performance has been observed under influence of meditation practice. As the malnutrition is one of the important causes of subnormal health status thus, the meditation

				practice has shown better results when introduced along with additional nutrition supplement among the tribal children.
4.	Coronary Atherosclerosis reversal potential of Yoga Life Style Intervention	Dr. S.C. Manchanda, Ex. Head, Deptt. of Cardiology, All India Institute of Medical Sciences, New Delhi	To determine whether a user-friendly Yogic life style intervention Programme (including reversal diet, stress management and other yogic exercises) with control of other risk factors (e.g. smoking, hypertension, diabetes, lack of exercise, obesity) can reverse the atherosclerotic obstructions in known patients of Coronary Artery Disease (CAD).	Yoga life induced favourable effects on angina, body weight and lipid levels. Also, it appear to stabilise the atherosclerotic plaque, thus decreasing the need for coronary bypass surgery or angioplasty procedures.
5.	An integrated approach of Yoga therapy for stress related ailments	Dr. H.R. Nagendra, Vivekananda Kendra Yoga Research Foundation, Bangalore	To study the effect of Integrated Approach of Yoga Therapy for Stress Related Ailments	Nadi Shudhi was found to be beneficial in cases of Anxiety Neurosis, Bronchial Asthma and Hypertension. Chandranuloma Viloma (CAV) was useful for Back pain, Chronic Pain and Diabetes Mellitus and Suryanuloma Viloma (SAV) for Obesity & Rheumatoid Arthritis. Imbalances at the Psychological level, percolates to the body level as clinical manifestation via imbalances in autonomic bio-chemical and immunological systems. IAYT has helped the patients to move towards balance in these complex stress related ailments.

6.	Understanding of Neurodynamical complexities of meditative process from the EEG signals	Dr. N. Pradhan, Deptt. of Psychopharmacology, National Institute of Mental Health & Neuro Sciences, Bangalore	<ol style="list-style-type: none"> 1. To evaluate the non-linear dynamical parameters of the EEG time series in terms of its correlation dimension (D2), fractal dimension (D1) and phase space trajectory behavior during resting states of eyes-open and eyes-closed. Topographic brain mapping and compressed spectral array of multichannel EEG are to be carried out to quantitate the brain activities in various bands of EEG as a standard procedure. 2. To evaluate the above dynamical parameters in the same individual during meditation and post-meditative periods. 3. The dynamical parameters are to be analysed in order to understand the nature of EEG during resting states and in meditation and to determine whether the EEG generated in these states is the underlying stochastic process or a chaotic process. The nature and the degrees of freedom of microscopic brain functions are to be derived from the results. 4. Modelling of neurobiological functions in the meditative process. 	<p>The study concluded that the Mediation produces significant changes in the brain state and these are more pronounced in experienced mediators than the novice is. In experienced meditators, simple relaxed state without meditation has high degrees of synchrony across brain regions. During meditation, there occurs a reduction in chaotic dimensional complexity. The brain appears more homogenous during meditation. The diverse fragmented activities and independence of subsystems in the resting state of the brain are reduced during meditation. In addition, there appears to be a reduced cross talk across neural circuits. It seems, as if the infinite number of independent neuronal oscillators are gradually drawn into a single driving force by meditation</p>
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7.	A comparative study on Yoga, Perfect Health and Fertility behaviour among Yogic & Non-Yogic couples	Jeevan Rekha Parishad, Bhubaneswar, Orissa	<ol style="list-style-type: none"> 1. To study whether Yoga brings positive attitudinal and behavioural changes among yogic couples in stress management, healthier sexual behaviours and fertility & reproductive system. 2. To understand whether married couples practising Yoga are found more composed, relaxed, self disciplined, show greater marital satisfaction and have better sexual & fertility behaviour. 3. To understand whether couples practising Yoga have better mental attachment, married life with greater co-operation, agreement and harmony in their sexual relation creating healthier base for fertility. 4. To understand that practice of Yoga helps the couples for healing and preventing gynae disorders including early ejaculation, spontaneous termination of pregnancies, infertility, irregular bleeding, anaemia and troubles in reproductive system such as primary & secondary sterility in male & female. Irregular menstrual cycles causing disorder 	<p>It has been found through the study that Yogic relaxation practices lower the levels of cholesterol in the blood of hypercholesterolemic patients. The study also found that serum lipid levels were reduced in normal subjects taking a normal diet, following training of Yoga. After three months of practices of some of the pranayamas and asanas, these persons have no sexual problems. These couples have improved in their conjugal and sexual relationship. They do not have any fear, stigma and misconception about sexuality. The results were quite encouraging in following cases:-</p> <ol style="list-style-type: none"> 1. The Reproductive Tract Infection (RTI) 2. Leucorrhoea and Vaginal Infections : 3. Urinary Disturbances in Pregnancy: 4. Disorders in the Male Reproductive System :
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			<p>of ovulation, endometrial or uterine factors, local factor etc.</p> <p>5. To document and develop the use of Yoga in the field of reproductive sexual health by eliminating its harmful methods/practices, encouraging their beneficial effects and helping the policy makers / Yoga experts and Yoga Institutes to practice the system in scientific manner.</p>	
8.	Yoga for memory development among school children	Dr. Y.P. Kaushik, Project Head, Atma Darshan Sadhna Kendra, New Delhi	To determine the efficacy of yoga practice at young age of school going children to improve their memory using the integrated approach of Yoga,	The results of this study showed the regarding the efficacy of Yoga practice (Integrated Approach of Yoga) as an effective tool for Memory Development of students of young age (9 to 14 years).
9.	Coronary artery disease regression through life style changes – vegetarianism, moderate exercise, stress management through Rajyoga meditation	Dr. R.C. Sawhney, DIPAS, Delhi, Dr. Satish Kumar Gupta, J. Watumull Global Hospital and Research Centre, Mount Abu, Dr. Lajpat Rai, MDNIY, New Delhi, Defence Institute of Physiology & Allied Sciences (DIPAS), Delhi	To study the effect of life style changes such as low fat, high fibre vegetarian diet, moderate aerobic exercise and stress management through Rajyoga meditation on regression/ progression of coronary atherosclerosis and coronary events e.g. myocardial infarction, requirement of angioplasty, bypass surgery etc.	The results from the present investigation suggest that the unique user-friendly healthy lifestyle program is feasible, safe and compatible with other treatments in the setting of advanced coronary atherosclerosis with a high degree of compliance. Both the trials support the hypothesis that adoption and maintenance of this unique user-friendly healthy lifestyle program which motivate patients to take up responsibility of their own health

				can lead to highly significant reduction in coronary atherosclerosis, reduction in hospitalization for cardiac events, requirement of anti-anginal drugs, effective control of symptoms like angina, breathlessness and better control of hypertension, diabetes and improvement in exercise tolerance, metabolic and hormonal profile and overall feeling of well-being, after one year in AHHT and two years in MAOHT.
10.	Effect of Yogic practices on the physiological & anti-oxidant systems in man	Dr. U.S. Ray, Defence Institute of Physiology & Allied Sciences (DIPAS), Delhi	<ol style="list-style-type: none"> 1. To study the cardiovascular dynamics, neurophysiological 2. Parameters and oxygen consumption during the actual practice of Yogic Asanas, Pranayama and Meditation. 3. To observe any improvement in antioxidant system to counter act stress induced free radicals especially after vigorous exercise. 4. To correlate the level of biomarkers of stress induced free radicals with other physiological parameters related to exercise like aerobic capacity, anaerobic capacity, anaerobic threshold or onset of blood lactate of particular concentration and heart 	<p>The study concluded that :-</p> <ol style="list-style-type: none"> 1. Yogic practices along with other kinds of exercise / games may help to improve maximal oxygen uptake capacity and to reduce exercise induced perceived exertion. It may have applications in sports and general fitness program. 2. Supplementing Yogic practices with other modes of therapy may counter act the deleterious effects of oxidative stress or it may be used as prophylactic measure. 3. Sensory neural processing in the auditory evoked potential improves by yogic practice. In

			<p>rate dynamics.</p> <p>5. To indicate most specific biomarkers suitable to study the antioxidant related changes due to yogic practices in man.</p>	<p>Bhramari and Bhastrika pranayama and Omkar meditation effects are prominent. These practices may be helpful in this respect.</p>
11.	To evaluate the efficacy of Yoga treatment with or without Biofeedback procedures in the management of three disorders	Dr. Ranjana Y. Abhang, Kaivalya Dhama, Lonavla, Pune	<p>To investigate whether Yoga, Biofeedback and the combination of Yoga and Biofeedback are effective in the management of three stress related disorders:-</p> <ol style="list-style-type: none"> 1. Bronchial Asthma 2. Essential Hypertension 3. Diabetes Mellitus 	<p>It has been observed that more than 80 % of patients have reduced/stopped their medicine allopathic drugs/doses and feeling of positive attitude towards life was remarkably improved.</p>
12.	Randomized Comparative trial to determine the efficacy of the Yoga therapy on the patients of obesity as compared to the conventional treatment	Dr. T.K. Bera, Kaivalya Dhama, Lonavla, Pune	<ol style="list-style-type: none"> 1. To determine the efficacy of Yoga therapy for the residential treatment of Obesity as compared to non-residential treatment. 2. To determine the comparative efficacy of Yoga therapy and that of the conventional diet and exercise treatment on the non-residential patients. 3. To conduct a qualitative assessment of the reaction of the patients undergoing the Yoga therapy (residential and non-residential) and that with the conventional diet and exercise treatment to the whole therapy situation. 	<p>The study shows that both the Aerobics and Yoga programmes were useful in controlling overweight and excessive body fat including abnormality in the associated psycho-physio-biochemical and morphological variables. Further Yoga programme was found more effective and appropriate than the aerobics one in treating obesity.</p>

13.	Yoga & Biofeed back for the treatment of Irritable Bowel Syndrome	Dr. K.K. Deepak, Department of Physiology, All India Institute of Medical Sciences, New Delhi	<ol style="list-style-type: none"> 1. To study autonomic functions in Irritable Bowel Syndrome patients undergoing Yogic intervention. 2. To study the effect of Yogic intervention on gastric motility as recorded by electrogastrography in Irritable Bowel Syndrome. 3. To compare the effectiveness of Yogic and conventional interventions in Irritable Bowel Syndrome 	Results indicated that though interventions benefited IBS patients IBS patients undergoing Yoga-2 intervention benefited more than those patients undergoing conventional intervention. Yoga – 2 intervention resulted in increase in parasympathetic activity, reactivity and sympathetic reactivity whereas Yoga – 1 intervention resulted in increase in sympathetic reactivity only.
14.	To study the effect of Yogic practices on symptomatology and Physiological Parameters in Bronchial Asthma	Dr. J.C. Suri, Department of Respiratory Critical Care and Sleep Medicine, Safdarjung Hospital, New Delhi	<p>To evaluate the effect of various Yogic practices on –</p> <ol style="list-style-type: none"> 1. The symptomatology of Asthma (Subjective parameter) 2. Physiological parameters (Objective paramater) 	<p>It was observed that during the treatment and follow up period, bronchodilator requirement had reduced significantly in all the three groups. There was also an improvement in the perception of dyspnoea, as measured by VAS in all the groups. The study concluded that –</p> <ol style="list-style-type: none"> (i) Yoga results in subjective improvement in term of symptoms, in patients with bronchial asthma. (ii) Yoga serves as a good adjunctive tool in the management of asthma, resulting in control of symptoms with minimum

				dose of inhaled steroids (600 µg of beclomethasone dipropionate per day).
15.	Integrated Approach of Yoga Therapy in the Management of Cancer	Dr. H.R. Nagendra, Swami Vivekananda Yoga Research Foundation, Bangalore	<ol style="list-style-type: none"> 1. Can Yoga reduce the side effects in patients undergoing Radiotherapy and Chemotherapy for Breast Cancer. 2. Does Yoga bring about a favorable immune modulation in Breast Cancer patients undergoing Radiotherapy and Chemotherapy. 3. Can Yoga improve the quality of life of patients with Breast Cancer undergoing Conventional Treatment. 	<p>The study concluded that daily practice of IAYT during conventional treatment conferred positive benefits in terms of</p> <ol style="list-style-type: none"> 1. Decrease in affective states and psychological morbidity 2. Improved coping response. 3. Decreased distress. 4. Reduced side effects/ toxicity of conventional treatment. 5. Improved Quality of life. 6. Reduced immune suppression. 7. Increased natural killer cell counts. 8. Reduced IgA levels. 9. Increased soluble interleukin 2 Receptor levels. 10. Increased pain thresholds. <p>In this study yoga therapy not only conferred physical, functional and psychological benefits to the cancer patients but also brought about desirable immunomodulatory effects, which enhance survival and tumor lysis in these patients.</p>

16.	Uni-nostril Yoga breathing & Obesity : A study of efficacy and mechanisms	Ms. Shirley Telles, Swami Vivekananda Yoga Research Foundation, Bangalore	<ol style="list-style-type: none"> 1. To understand the pathophysiology of obesity. 2. To determine whether specific Yoga breathing practices influence weight gain and their mechanisms of action. 	The study reveals that in the case of the 4 groups practicing specific Yoga breathing techniques, all 4 groups showed almost comparable decrease in body Weight, mid-arm circumference and waist-hip ratio. However, the SAV group showed a decrease which was marginally higher than that of the others, and which was least in the CAV group.
17.	To Study the efficacy of Yoga & Naturopathy in the management of withdrawal of drug dependence	Dr. Kiran Bedi, Project Director, Navjyoti- Delhi Police Foundation, Sarai Rohilla, Delhi	<ol style="list-style-type: none"> 1. To study the efficacy of Naturopathy and Yoga as a mode of effective treatment on Drug Dependents. 2. To document and record the management of the withdrawal symptoms (Physical and Psychological) by Yoga and Naturopathic mode of treatment vis-à-vis Allopathic Treatment 	The study showed that the non-medicative treatment of drug abusers was more effective in the detoxification as compared to medicateve treatment. It means Yoga, Naturopathy and Counselling are instrumental in the reduction of relapse incidence.
18.	Influence of Yoga in immune modulation & outcome of Rheumatoid Arthritis	Dr. Chandrashekara S., Deptt. of Clinical Immunology, M.S. Ramaiah Medical Teaching Hospital, Bangalore	<ol style="list-style-type: none"> 1. Does Yoga bring about a favorable immune modulation in patients suffering from Rheumatoid arthritis? 2. Does Yoga & Pranayama reduce the distress and disabilities of Rheumatoid arthritis patients? 3. Does Yoga & Pranayama improve the joint mobility and strength of the affected joints? 4. Can Yoga improve the quality of life of patients suffering from 	The study shows that Yoga group was able to return to their normal active life style much earlier than controls. Subjects in Yoga group reported more functional efficiency as compared to controls in going about their daily domestic chores. Subjects in intervention were more independent in attending to their daily activities and depended less on their peers. Intervention group reported lower level of security of

			Rheumatoid arthritis?	distress symptoms such as pain, stiffness, swelling, and immobility etc. this reflected in their overall improvement in functional quality of life in intervention group. The final report is awaited.
19.	The effect of Asanas and Pranayamas on Neurological, Neuromuscular & Cardio-respiratory functions in Healthy Human Volunteers	Dr. Madan Mohan, Head, Deptt. of Physiology, Jawaharlal Institute of Post Graduate Medical Education & Research, Pondicherry	<ol style="list-style-type: none"> 1. To study the effect of yogasanas and pranayamas on neurological, neuromuscular, respiratory and cardiac autonomic functions in healthy human volunteers 2. To determine the mechanism of these physiological effects 	The study showed that 6 months training in asana, pranayama as well their combination is effective in improving the physiological functions of school children as well as police trainees. Police trainees also showed beneficial effects of Yoga training although they were undergoing intensive police training and the yoga training was relatively less intense.
20.	Yoga for computer related health problems	Ms. Shirley Telles, Swami Vivekananda Yoga Research Foundation, Bangalore	The present study aims at assessing the use of yoga practice in reducing (i) visual, (ii) musculoskeletal, and (iii) mental stress-related complaints, in persons who use the computer for more than 6 hours per day	The present study has demonstrated the usefulness of a 60 minute yoga module, practiced five days a week for software professionals, with a special emphasis on visual, musculoskeletal, and mental functioning.
21.	Effect of breathing techniques & meditation on normal individuals & those with cancer in remission	Dr. Vindoda Kochupillai, Instt. Rotary Cancer Hospital, AIIMS, New Delhi	<ol style="list-style-type: none"> 1. To study the Physiological, Biochemical, Hormonal and immunological differences among regular practitioner of Meditation, Pranayam and Sudarshan Kriya Vs non-practitioners of these 	Result showed significantly lower levels of blood lactate, and higher level of Super oxide Dismutase, Glutathione and Catalase in practitioners of Sudarshan Kriya & pranayama (SK&P) among healthy male police volunteers. The study

			<p>techniques.</p> <ol style="list-style-type: none"> To study the long-term effects of these practices on the pattern of cancer recurrences. 	<p>also showed significant improvement in Natural killer (NK) cells at 12 and 24 weeks of the practice of SK&P compared to baseline. There was no effect on 7 cell subsets after SK&P either in the study group & among controls.</p>
22.	Effect of Yoga based therapy in insomnia	Dr. Geetanjali, Deptt. of Pharmacology, Jawaharlal Institute of Post Graduate Medical Education & Research, Pondicherry	<ol style="list-style-type: none"> To establish the efficacy of yoga based therapy (Yoga Nidraa) in the treatment of chronic insomniac insomnia. To develop learner resource material on yoga based postures and relaxation techniques to be used as patient education material for those suffering from chronic insomnia. 	<p>Study showed an increase in sleep period, deep sleep, sleeps efficiency and reported less wake time after sleep and also total wake time following one month of yoga intervention. The study also showed increase in sleep period time, sleeps efficiency and also showed less sleep onset latency following three months of yoga intervention.</p>
23.	A randomized controlled trial on the efficacy of Yoga in the Management of Bronchial Asthma	Dr. K.K. Deepak, Department of Physiology, All India Institute of Medical Sciences, New Delhi	<ol style="list-style-type: none"> Pulmonary function tests Selected biochemical and immunological indicators known to be indicators of mast cell activation and the course of the disease Health related quality of life 	<p>a) Indices of pulmonary function showed a steady, progressive significant improvement over the 8-wk period of the study in the yoga group, whereas these indices did not show any significant trend from the baseline level in the control group. Therefore adding yoga to the conventional treatment improves pulmonary function which could be a factor in improving physical work</p>

				<p>capacity.</p> <p>b) No significant changes observed in serum eosinophil cationic protein (ECP) in either group and no correlations were found in either group with any other pertinent parameters. The high variability in ECP levels suggests the need for much larger number of subjects for arriving at definitive conclusions.</p> <p>c) There is a significant trend observed in yoga group that 2 wk yogic intervention reduces T-cell activation in patients with mild to moderate asthma by showing decrease in serum sIL2R levels.</p> <p>d) There is a significant trend suggesting a decrease in broncho-constriction and a similar trend of insignificant reduction in mast cell activation in response to exercise challenge in the yoga group, particularly in the exercise-sensitive patients. Once again, in view of high variability in response, a much larger number of</p>
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				<p>exercise-sensitive subjects are required for definitive conclusions.</p> <p>e) Yoga improves quality of life and reduces need for medication in bronchial asthma more effectively than conventional treatment alone.</p> <p>f) Since conventional treatment alone keeps symptoms in check and improves quality of life without improving pulmonary function, its benefit may be considered primarily symptomatic. Addition of yoga to the treatment potentiates the benefits of conventional treatment, and in addition improves pulmonary function. Thus, only yoga brings about a genuine improvement in physical capabilities of the patient.</p> <p>g) The trial support for the efficacy of yoga in the management of bronchial asthma. However, in spite of preliminary efforts it has failed to throw much light on the mechanism by which yoga works in bronchial asthma.</p>
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24.	Autonomic function tests in epilepsy –Effect of Hatha Yoga	Dr. T.N. Sathyaprabha, Deptt. of Neurophysiology, NIMHANS, Bangalore	<ol style="list-style-type: none"> 1. To collect and prepare normative data using healthy controls as volunteers. 2. To evaluate autonomic functions in chronic epilepsy subjects 3. To study effect of Hatha yoga in patients with epilepsy and autonomic dysfunction. 	<p>Our study has showed autonomic dysfunction in epilepsy. The yoga group showed significant improvement in parasympathetic parameters and a decrease in seizure frequency scores. There was no improvement in blood pressure parameters in either group. Two patients in the yoga group achieved normal autonomic functions at the end of 10 weeks of therapy, whereas there were no changes in the exercise group. The data suggest that yoga may have a role as an adjuvant therapy in the management of autonomic dysfunction in patients with refractory epilepsy.</p>
25.	A study of efficacy of Yogic & Naturopathic measures in Psoriasis and Eczema	Dr. D.S. Lucas, ALN Rao Memorial Ayurvedic Medical College, KOPPA, Karnataka	<ol style="list-style-type: none"> 1. Management of psoriasis and eczema with the yogic and naturopathic measures. 2. To establish an effective treatment with the yogic and naturopathic measures. 3. To assess the merits and demerits of the trial naturopathy and yogic measures. 4. To assess the merits and demerits of the control medications. 5. To compare the efficacy of the trial naturopathy and yogic 	<p>Study showed a significant improvement in itching, scaling, pain and number of lesions following 21 days of Yoga & Naturopathy treatment as well as Ayurvedic treatment.</p>

			<p>measures with the standard control medications.</p> <p>6. Detailed study of the disease covering classical and modern literature.</p> <p>7. Study of the trial naturopathy and yogic measures covering classical literatures.</p>	
26.	The therapeutic effect of Yoga on patients with generalised epileptic seizures	Dr. Chandrashekharan, Krishnamacharya Yoga Mandiram, No. 16, Fourth Cross Street, Ramakrishna Nagar, Chennai	<ol style="list-style-type: none"> 1. Enhance the emotional status, psychological wellbeing and overall quality of life of seizure patients. 2. Study the seizure frequency in relation to practice. 3. Evaluate cognitive functions. 4. Understanding the quality of yoga practice and subjective experiences of the subjects. 	<ol style="list-style-type: none"> a. The yoga intervention for the seizure patients is effective in enhancing physical quality of life and reducing negative emotional states such as Situational Anxiety, Generalized Anxiety, Frequency and Intensity of Depressive symptoms. The effect is significantly higher when compared to medically managed seizure group. However the differences within the yoga trained group was not very marked. b. There was a significance reduction in the Seizure Frequency of yoga practicing patients indicating it is safe to practice this type of yoga that the students were trained in. c. There has been a significant increase in the Physical Quality of life as well as Social Quality

				<p>of Life of the patients who have undergone yoga training. The same effect was not of life had deteriorated for the control group.</p> <p>d. The cognitive functions and processes were significantly lower among seizure patients compared to normal subjects and yoga training did not have any impact in enhancing the cognitive functions. Individual differences were observed in specific functions where they showed improvements over the 18 months period. In depth study in these areas is needed.</p>
27.	Yogic relaxation in the management of ulcerative colitis	Dr. K.K. Deepak, Department of Physiology, AIIMS, New Delhi	<ol style="list-style-type: none"> 1. To study the autonomic and immune functions in patients with ulcerative colitis and Crohn's disease. 2. To study the effect of yogic intervention on autonomic, immunological, clinical, and psychological parameters in patients with inflammatory bowel disease. 	Result showed a significant decrease in State and Trait Anxiety. The result also showed significant decrease in the number of patients with intestinal colic pain (constricting pain) and the arthralgia following two months of Yoga intervention when compared to control group.
28.	Efficacy of Naturopathy and Yoga modalities in the	Dr. Ravinder Porwal, Shri Nath Naturopathy &	<ol style="list-style-type: none"> 1. To study the effect of Yoga and Naturopathy methods, which 	The above results indicate specific yogic and naturopathic treatments

	management of Rh. Arthritis, Osteo-arthritis and Gout	Yoga Centre, Kanpur, U.P.	<p>are commonly used in the treatment of the above disorders.</p> <ol style="list-style-type: none"> To compare the effect of Yoga and Naturopathy treatment with that of modern medicine. To analyze the physiological & clinical changes in the above 3 disorders before & after treatment. 	which are highly effective in the treatment of arthritis, rheumatism and allied joint disorders which are more or less incurable by modern medical sciences. It can be conclusively said that yogic and naturopathic methods are the best treatments of patients of all kinds of arthritis without any significant side effects.
29.	Effect of integrated approach of Yoga therapy for metastatic breast cancer patients and study of DNA repair mechanisms relevant to cancer	Dr. H.R. Nagendra, Vivekananda Yoga Anusandhan Sansthan, Gavipuram Circle, KG Nagar, Bangalore	<ol style="list-style-type: none"> Can Yoga program help in modulating abnormal diurnal salivary cortisol levels in metastatic breast cancer patients? Can yoga increase Natural Killer Cell count in metastatic breast cancer patients? Can Integrated Approach of Yoga therapy program effective in reducing the psychological morbidity in patients with metastatic breast cancer? Can yoga program reduce the treatment related symptoms in cancer patients? Can yoga improve the quality of life in patients with cancer? 	Study showed significant decrease in anxiety, depression, perceived stress, pain, insomnia, sleep symptom distress, fatigue and significant improvement in role function, emotional function, Global quality of life, sleep pattern, sleep quality and total sleep rating along with significant improvement in Natural Killer Cell% and significant decrease in early morning cortisol level in yoga group compared to control group following 3 months of intervention.
30.	Development of Traditional Tongue Diagnosis aided by Information Technology for	Dr. Debasis Bakshi, Indian Research Institute for Integrated Medicine,	<ol style="list-style-type: none"> To develop a computer date-base on Tongue, Face & iris images of healthy individuals of 	Result showed a significant improvement in complaints of acidity and other associated

	Standardization of Nature Cure Diagnostic Methods	IRIIM Bhavan, Mourigram, Station Para, Post Office Unsani, Distt. Howrah - 711302 West Bengal	both sexes and age range from 18-60 yrs. & persons of following diseased condition: a) Acidity-Indigestion b) Bronchial Asthma 2. To develop an image classification system to identify healthy or unhealthy subjects based on Tongue, Face & Iris images. 3. To evaluate statistically the diagnostic potential of tongue image analysis technique & expert system.	symptoms and also significant change in the tongue feature in both acidity – indigestion group and bronchial asthma group.
31.	Randomized Control trial (RCT) of reflexology therapy and usual drug treatment in the management of intractable epilepsy	Dr. (Mrs.) Krishna Dalal, Principal Investigator, Deptt. of Biophysics, All India Institute of Medical Sciences, New Delhi - 110029	To conduct a randomized clinical trial for determining the efficacy of hand – and foot – reflexology in the management of patients suffering from intractable epilepsy.	Subjective assessment by the patients showed considerable improvement in the quality of life of most of the patients in the study arm. The abnormal reflex areas leading to diagnosing the abnormal function of the internal organ system also got improved with statistically significant value. It is also observed that the patients who responded 100% with reflexology intervention is having better absorption of drug.
32.	Assessment of the efficacy of Vipassana Meditation on different age groups: A polysomnographic and endocrine function evaluation	Dr. Bindu M. Kutty, Principal Investigator, Deptt. of Neurophysiology, National Institute of	1. Polysomnographic Assessment of sleep architecture and EEG power spectra. 2. Assessment of Hormonal profiles in the serum.	Vipassana meditators showed enhanced slow wave sleep and rapid eye movement sleep states with an enhanced number of sleep cycles across all age groups. When

		Mental Health and Neurosciences, Bangalore – 560029	3. Assessment of Heart Rate Variability during different stages of sleep	compared to meditators, the control groups exhibited pronounced age-associated decrease in slow wave sleep states. Our study suggests that vipassana meditation helps to establish a proper sleep structure in old age, probably through its capacity to induce neuronal plasticity events leading to stronger network synchronization and cortical synaptic strengthening.
33.	Efficacy of Yogic intervention for the management of migraine – a randomized controlled trial	Dr. B.T. Chidananda Murthy,	The present study was designed to evaluate the effects of “Integrated yoga program” with “control” intervention on: (i) Psychological morbidity such as state and trait anxiety using self reported scales (ii) Migraine related symptom reporting. (iii) Total Quality of life.(v) Endocrine responses such as salivary cortisol among subjects suffering from Migraine.	Study results showed significant decreases in anxiety, pain, interference of pain on quality of life and salivary cortisol in the yoga group compared to controls. The study demonstrated a significant reduction in migraine headache pain, frequency, intensity and associated clinical features along with reducing salivary cortisol level in patients treated with yoga compared to controls.
34.	An exploratory analysis of genetic correlates and effects of Yoga on circadian rhythms, cognitive functions and social burden in major mental disorders: schizophrenia, bipolar disorder and depression and their	Dr. Smita N. Deshpande, Deptt. of Psychiatry, Dr. R.M.L. Hospital, New Delhi	1. Evaluate the impact of yoga training on selected cognitive and circadian variables in a comparison population, as well as individuals with selected disorders. 2. Evaluate relationship between	<ul style="list-style-type: none"> • Participants- both mental illness and stable cardiac- showed many beneficial effects of yoga, in psychopathology as well as in various aspects of cognition. • Quality of life also improved, but burden on family (possibly

	comparison with a cardiac group		<p>familial, genetic and clinical factors on the yoga-induced response among sufferers.</p> <ol style="list-style-type: none"> Evaluate impact of the yoga training on care givers of the mentally ill subjects. Assess and evaluate the morbid risk of medical and psychiatric illness among the sufferers of schizophrenia, bipolar disorder and major depressive disorder. For comparison, we will investigate individuals with cardiovascular disorders undergoing outpatient treatment. 	<p>due to bringing the patient every day for yoga training) increased.</p> <ul style="list-style-type: none"> Some specific genes were found to be associated with improvement in cognition after Yoga Relative risk of mental illnesses in first and second degree relatives of patients was found to be on the lower side.
35.	A Study to assess acute mental stress induced changes in EEG, Cognitive behavior and Neurosteroids across the menstrual cycle and effect of meditation on stress induced changes	Dr. Ratna Sharma, Department of Physiology, AIIMS, New Delhi.	<ol style="list-style-type: none"> To use EEG activity as a tool to assess the adverse effects of acute stress on neural function in young adult subjects and explore the possibility of using the same as a physiological marker of stress. To study the effect of meditation on acute stress induced changes in EEG. To specifically study the following changes in EEG during 	<p>Acute stress after meditation resulted in same effects as stress before meditation in males. Attention declined in both the phases in females. Alertness, semantic memory, motor behavior and binding were better in follicular phase and episodic memory scored better in luteal phase.</p> <p>Meditation resulted in relaxation effect on physiological parameters</p>

			<p>acute stress and meditation:</p> <ul style="list-style-type: none"> i. Individual Alpha frequency ii. Lower Alpha1 and 2 band power iii. Upper Alpha band power iv. Theta band power <p>4. To study the sensitivity of female subjects to acute stress during various phases of menstrual cycle using above parameters.</p> <p>5. To study the effects of acute stress on cognitive functions during various phases of menstrual cycle.</p> <p>6. To study the effect of meditation on the effects of acute stress on cognitive function during various phases of menstrual cycle.</p> <p>7. To correlate the levels of neurosteroids with the changes in cognitive functions and the resulting influence on EEG during various phases of menstrual cycle.</p>	<p>(decrease in GSR), better attention and alertness in male subjects. In female subjects no significant change in HR and GSR was observed. Episodic memory, attention and alertness improved in follicular phase whereas.</p>
36.	A Randomized Controlled Trail of Yoga to manage the adverse stress reactions at work in health professionals	Dr. Manvir Bhatia, Department of Neurology, Sir Ganga Ram Hospital, New Delhi	To find the effectiveness of yoga as an intervention modality for the management of burnout in health professionals.	The project is completed recently and the final report is under examination.

37.	Randomized Control Trial to evaluate the effectiveness of cold and hot immersion baths on impaired glucose tolerance in pre-diabetes”	Dr. Raghavendra Rao M., Nature Cure, Yoga, Acupuncture & Physiotherapy Hospital, Nisarga Trust (R), Nadig Galli, Sirsi – 581 401 (N.K.),Karnataka	<p>The key goal of this research proposal is to assess the feasibility of studying the effects of hydrotherapy applications to prevent development of diabetes in persons with impaired glucose tolerance (or pre diabetes) and to collect preliminary data on the efficacy of the intervention. The key outcome in the pilot study will be changes in glucose tolerance following hydrotherapy treatments (hot tub bath or cold tub bath) with only diet control.</p> <p>In this study 1200 persons of above 30 years will be screened for elevated glucose using a glucometer to identify pre-diabetic subjects. Considering the prevalence of pre-diabetes as 12 percent in the urban population above 30 years of age, it is presumed that approximately 144 persons with pre-diabetes will be found and considering a 10 percent refusal and another 10 percent dropouts from the study they will have 120 persons completing the study.</p>	The study results have shown that hot immersion baths offer a promising therapy in modulating glucose insulin homeostasis in pre-diabetic subjects. However larger randomized controlled trials are needed to validate these findings.
38.	A study of efficacy of Yogic and Naturopathy measures in Varicose Veins”	Dr. Sanjaya K.S., ALN Rao Memorial Ayurvedic Medical	1. Management of varicose veins with Naturopathy and Yogic measures.	The study results have shown the effect of treatment by yogic and naturopathic was more on reducing

		College, Koppa – 577 126, Chikmagalur Dist.,Karnataka	2. To assess the merits and demerits of the trial measures.	swelling, itching, discoloration. On the basis of the clinical trial total effect of yogic and naturopathic treatment was better than the ayurvedic treatment.
39.	Effect of Yogic Practices on Serum Lipid Profile & Insulin Resistance in Healthy Obese subjects	Dr. Sunita Tiwar, Deptt. of Physiology, King George Medical University, Lucknow (U.P.)	1. To study and compare the effects of yogic practices and exercise on plasma glucose and insulin status in apparently obese subjects. 2. To study and compare the effects of yogic practices and exercise on plasma lipid profile (Total Cholesterol, HDL/LDL, VLDL and Triglyceride in apparently obese subjects.	Study showed a significant decrease in anthropometric variables (weight, BMI, WC, HC and WHR), biochemical parameters (TC, TC/HDL, TG, VLDL, LDL, Insulin, FPG and Homa index) in all four groups. The decrease was more in Yoga groups compared to Aerobic group. A research paper titled “Effect of yoga in the management of risk factors associated with obesity: A pilot study” has also been published in Indian Streams Research Journal.
40.	Effect of Yoga on Serum Interleukin levels in Adolescents with Depression	Dr. A.K. Mukhopadhyay, Department of Laboratory Medicine, All India Institute of Medical Sciences, New Delhi	1) To find out the relationship between serum interleukins, ACTH and cortisol and adolescent depression. Also to look for whether the laboratory parameters could be related the severity or the degree of depression. 2) Whether the alteration in serum interleukin, ACTH and cortisol levels are brought to normal after	Results of psychometric evaluation and ELISA at baseline and follow up of various interleukins show significant trends of improvement in depressive symptomatology. Both groups significantly improved in anxiety and depression scores. Yoga group showed more significant decreases in depression

			<p>3 months of therapy with psychopharmaceuticals like Tab Sertraline (SSRI).</p> <p>3) Whether a structured yoga therapy combined with conventional medication for 3 months could have any additional advantage or not.</p>	<p>and anxiety scores supporting the use of Yoga therapy to be beneficial for treatment of depression in adolescents.</p>
41.	<p>Naturopathy and Yoga Intervention for post-stroke Rehabilitation & Quality of Life Improvement-a controlled study</p>	<p>Dr. Agni Singh, Yoga and Nature Cure Home, Khundrakpam Awang Leikai, Imphal East, Imphal Saikul Road, P.O. Pangei-795114, Manipur</p>	<ol style="list-style-type: none"> 1. To determine or evaluate the evidence for Naturopathy and Yogic techniques intervention aimed to improve the functional ability outcome after stroke and improve their overall quality of living, independency in their activities of daily living and prevent further chances of hemorrhages leading to severe disability and death. 2. To evaluate the difference between the home stay rehabilitation and hospitalized in Naturopathy & Yogic way of intense rehabilitation in Naturopathy and Yoga Hospital 	<p>The present study shows that in the management of stroke, early intense rehabilitation at Yoga and the Naturopathy hospital helps in improving not only the higher functions, the muscle power, grip strength, stroke severity, amplitude of active movement etc. but also the associated metabolic risk factors than the home rehabilitation.</p> <p>So the role of Yoga and the Naturopathy type of rehabilitation should be emphasized in addition to allopathy medication in the early management of stable stroke patients.</p>
42.	<p>Comparison of effects of yoga vs. relaxation on CINV outcomes following adjuvant chemotherapy</p>	<p>Dr. Raghavendra Rao M, Principal Investigator, Bangalore Institute of Oncology,</p>	<ol style="list-style-type: none"> 1. To evaluate the effects of yoga intervention vs. progressive muscle relaxation on chemotherapy induced nausea 	<p>This is the first study to compare yoga with an active control like Jacobson's relaxation that has proved to be useful in reducing</p>

		No.8, P. Kalinga Rao Road, Sampangiramnagar, Bangalore-560 027	<p>and emesis (CINV) outcomes in chemotherapy naïve breast cancer subjects.</p> <ol style="list-style-type: none"> 2. To evaluate the effects of yoga intervention on secondary outcomes such as quality of life and anxiety states. 3. To understand the underlying neural mechanisms such as gastric motility changes (Electrogastrogram) and sympathovagal changes on HRV spectral analysis that accompany chemotherapy induced nausea and emesis and evaluate the influence of yoga on these mechanisms. 	<p>nausea and emesis. study supports benefit for yoga in reducing nausea and emesis similar to Jacobson's relaxation. The restoration of normal gastric motility and stress reduction could be one of the mechanisms by which yoga could reduce CINV in subjects undergoing chemotherapy. Yoga can be used as an effective intervention in chemotherapy day care and outpatient settings to help patients manage nausea and vomiting due to chemotherapy.</p>
43.	Effect of Yoga & Hydriatic application on migraine–A Clinical, Electrophysiological and Immunological study	Dr. T.N. Sathyaprabha, Principal Investigator, Department of Neurophysiology, National Institute of Mental Health & Neurosciences (NIMHANS), Hosur Road, Bangalore-560 029	<ol style="list-style-type: none"> 1. To compare and evaluate the effects of hot arm and foot bath with ice massage to head with Conventional care vs. Conventional care on severity and frequency of migraine episodes, quality of life and perception of clinical benefit. 2. To compare and evaluate the effects of Yoga therapy with Conventional care vs. Conventional care on severity and frequency of migraine episodes, quality of life and perception of clinical benefit. 3. To compare and evaluate the effects of Yoga therapy with conventional care vs. hot arm and foot bath with 	<p>The results from this study suggest that both yoga and hydrotherapy conferred beneficial effects in reducing frequency, intensity of headaches and pain, and improving social function, physical function and emotional wellbeing. There was a greater reduction in Headache intensity and HIT scores in Hydrotherapy group compared to Control group. There was a significant improvement in role limitation due to physical health, emotional health and improvement in</p>

			<p>ice massage to head with conventional care vs. Yoga therapy + hot arm and foot bath with ice massage to head + conventional care on severity and frequency of migraine episodes, quality of life and perception of clinical benefit.</p> <p>4. To analyse the effect of above interventions of clinical assessment, proinflammatory cytokines and on autonomic responses.</p>	<p>vitality, social function decrease in pain and impairment in general health between hydrotherapy group compared to control group. Additionally Yoga also helped reduce inflammation (decrease in IL1 beta) brought about sympathovagal balance as seen through decrease in LF frequency and reduction in LFHF ratio compared to control group. Yoga +hydrotherapy group also showed decrease in LFHF ratio compared to control group.</p> <p>Conclusion: The results suggest clinical utility of both yoga and hot arm and foot bath in reducing migraine episodes and modulating neuroimmune responses.</p>
44.	<p>Comparison of cardiovascular autonomic functions in two groups of myocardial infarction patients (age 30-55 years): A randomized trial involving 2 groups of patients (1) on pharmacotherapy alone (2) on Yoga & life style intervention therapy & pharmacotherapy</p>	<p>Dr. Jagdish Prasad, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi</p>	<p>1. To have an objective assessment of cardiac risk by measuring cardiovascular autonomic functions after life style interventions & drug therapy protocol post acute MI.</p> <p>2. To make a subjective assessment of the feeling of well being experienced by a subject post acute MI after either undergoing lifestyle interventions or</p>	<p>Study showed a significant improvement in HRV component (RMSSD and pNN50%) indicating a better vagal tone in yoga group. Significant improvement in parasympathetic reactivity and significant decrease in sympathetic reactivity in yoga group. There was a significant decrease in triglyceride level in yoga group following intervention whereas control group showed a significant</p>

			undergoing a drug therapy regimen.	increase in cholesterol level. The study also showed a significant increase in total positive scores and significant decrease in negative scores in yoga group compared to control group in subjective well being.
45.	Efficacy of Naturopathy & Yoga therapy as an adjuvant in the management of Non-Hodgkin's Lymphoma [NHL]	Dr. Kalpana R., Add Life-PRAKRUTI, Indo American Cancer Institute & Research Centre, Hyderabad	<ol style="list-style-type: none"> 1. Reducing conventional treatment related distress and side effects 2. Decreasing the Psychological morbidity 3. Improving the Immune profile and 4. Improving quality of life in Non-Hodgkin's Lymphoma patients undergoing conventional cancer treatment 	The study results shown that the Yoga and Naturopathy interventions given along with conventional Chemotherapy in patients with early stage Non Hodgkin's Lymphoma significantly reduces Anxiety, Depression, symptom severity, improves FLIC and maintains Hemoglobin and Leukocyte counts.
46.	Efficacy of Mustard pack on knees in Osteo-arthritis	Dr. M.N. Babina, INYS Medical Research Society, Jindal Nagar, Tumkur Road, Bangalore – 560 073	The main objective of this study is to assess the effects of local mustard pack application to Osteoarthritic knee joints on pain reduction, swelling, symptom management, quality of life and physical performance.	The study shown that the local application of Mustard pack on knee joints have beneficial effect in reduction of pain, disability and improvement of quality of life in patients suffering with knee joint osteoarthritis. Mustard pack application can serve as an important non-invasive, safe, and cost-effective alternative modality for the conservative management of knee osteoarthritis.
47.	The effect of Yoga Therapy on Coagulation Profile, Lipid	Dr. Savita Singh, Prof. & Head,	1. To study and compare the various parameters such as	The study showed a significant improvement in slow vital

	<p>profiles, Lung Diffusion capacity and Quality of Life in Patients with Coronary Artery Disease</p>	<p>Deptt. of Physiology, U.C.M.S., G.T.B. Hospital, Dilshad Garden, Delhi</p>	<p>serum lipid profile, hematological tests, quality of life and lung diffusion capacity before and after 3 months of Yoga therapy in CAD patients on conventional medicine.</p> <ol style="list-style-type: none"> 2. To study and compare the various parameters such as serum lipid profile, hematological tests, quality of life and lung diffusion capacity before and after 3 months in CAD patients only on conventional medicine. 3. To compare the various parameters such as serum lipid profile, hematological tests, quality of life and lung diffusion capacity between CAD patients who will be undergoing yoga along with conventional medicine and CAD patients only on conventional medicine. 	<p>capacity, forced vital capacity, peak expiratory flow rate, maximum voluntary ventilation, and diffusion factor/ transfer factor of lung for carbon monoxide after 3 months of yoga regimen. Forced expiratory volume in 1(st) sec (FEV1), and FEV1 % also showed a trend toward improvement although not statistically significant. HR, SBP and DBP also showed significant improvement in patients who followed yoga regimen along with improvement in Lipid profile.</p> <p><i>CONCLUSIONS:</i> Yoga regimen was found to improve lung functions and diffusion capacity in CAD patients besides improving cardiovascular functions. Thus, it can be used as a complimentary or adjunct therapy along with the conventional medicine for their treatment and rehabilitation.</p>
48.	<p>The effect of Yoga in prevention of pregnancy Complications in High Risk Pregnancies</p>	<p>Dr. R. Nagarathna, Dean, Division of Yoga & Life Sciences, Swami Vivekananda Yoga Anusandhana Samsthan, 19, Eknath Bhavan,</p>	<ol style="list-style-type: none"> 1. To evaluate whether a regularly practiced Yoga Intervention in individuals with high risk pregnancies will significantly reduce the risk of pregnancy complications, attenuate the severities, and temporize their 	<p>The study showed a significant difference in the Perceived Stress Score (PSS) level of the Yoga Therapy (YT) group with significantly reduced scores at the second follow-up (28th week of pregnancy) compared to the</p>

		Gavipuram Circle, Kempegowda Nagar, Bengaluru.	<p>clinical manifestations as compared with a usual care treatment.</p> <p>2. To evaluate whether subjective psychological and objective physiological measures of stress will be significantly improved by yoga intervention as compared with controls.</p> <p>3. to evaluate whether the pregnancy outcomes will be significantly improved following the yoga intervention as compared with controls.</p>	<p>control group. Women who took part in the YT module reported significantly fewer pregnancy discomforts decrease in PSS than the control group where the stress level was increased. Study also showed a significantly higher values in the yoga group (28th week) for biparietal diameter, head circumference, femur length, and estimated fetal weight. The resistance index in the right uterine artery, umbilical artery, and fetal middle cerebral artery showed significantly lower impedance in the yoga group</p>
49.	Effect of Yoga on Physical, Cognitive and Emotional Development in Children	Dr. Shirley Telles, Yog Research Department, Patanjali Yogpeeth, Haridwar- 249 402	<p>To study the effects of <i>Patanjali Yoga</i> (based on the teachings of the sage Patanjali) which is formulated and widely disseminated by Swami Ramdev on:</p> <ol style="list-style-type: none"> 1. physical health 2. cognitive functions 3. social 4. emotional development 5. academic achievement in children 	<p>The present study compared the effects of 90 minutes/day for 15 days of supervised yoga or supervised walking on: (i) related biochemistry, (ii) anthropometric variables, (iii) body composition, (iv) postural stability, and (v) bilateral hand grip strength in overweight and obese persons. Sixty-eight participants, of whom 5 were overweight (BMI ≥ 25 kg/m²) and 63 were obese (BMI ≥ 30 kg/m²; group mean age \pmS.D., 36.4\pm11.2 years; 35 females), were randomized as 2 groups – (i) a yoga group and (ii) a walking</p>

				<p>group – given the same diet.</p> <p>Both groups showed a significant decrease in: BMI, waist circumference, hip circumference, lean mass, body water, and total cholesterol. The yoga group increased serum leptin and decreased LDL cholesterol. The walking group decreased serum adiponectin and triglycerides.</p> <p>The study concluded that both yoga and walking improved anthropometric variables and serum lipid profile in overweight and obese persons. The possible implications are discussed.</p>
50.	Effect of a Yoga Program on Anthropometric and Biochemical Measures in Obese Persons	Dr. Shirley Telles, Yog Research Department, Patanjali Yogpeeth, Haridwar- 249 402	To study the effects of a yoga program on anthropometric and biochemical measures in obese persons: <ol style="list-style-type: none"> 1. Self-esteem in obese persons 2. Muscle strength in obese persons 3. Postural stability of obese persons 4. Anthropometric measurements in the obese 5. Biochemical measurements intended to understand whether yoga modifies basic feeding/satiety mechanisms 	In the present study 98 school children between 8 to 13 years were randomized as yoga and physical exercise groups were blind assessed after allocation, using: (i) the Eurofit physical fitness test battery, (ii) Stroop color-word task for children, (iii) Battle's self-esteem inventory and (iv) the teachers' rating of the children's obedience, academic performance, attention, punctuality, and behavior with friends and teachers. After

				<p>assessments the yoga group practiced yoga for 45 minutes each day, 5 days a week. During this time the physical exercise group had jogging-in-place, rapid repetitive movements and relay races or games. Both groups were assessed at the end of 3 months.</p> <p>The result showed one significant difference between groups. This was in social self-esteem which was higher after physical exercise compared to yoga. Both groups showed an increase in BMI, and number of sit-ups. Balance worsened in the physical exercise group, while plate tapping improved in the yoga group. In the Stroop task both groups showed improved color, word- and color-word naming, while the physical exercise group showed higher interference scores. Total, general and parental self-esteem improved in the yoga group.</p> <p>The study concluded that Yoga and physical exercise are useful additions to the school routine, with physical exercise improving social self-esteem.</p>
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51.	Comparison of effects of two Yoga interventions versus Exercise therapy in the management of mechanical Low Back Pain	Dr. Venketaramana Hegde, Snehakunja Trust @, Vivekananda Arogyadhama, Kasarkod, Honnavar, North Kenra, Karnataka	To evaluate the effect of Yoga intervention in subjects with chronic low back pain using static slow asana or postures and maintaining them for a few seconds to minutes as described in the ancient yogic texts (Patanjali Yoga Sutras).	The study showed a significant within group decrease in Rolland Morris Disability Questionnaire scores (RMDQ), back pain scales of Von Kroft, Maniche, and Waddle and Maine. There was also a significant decrease in HADS-anxiety and improvement in physical health, emotional health and total health in all 3 groups such as static yoga group, repetitive yoga group and joint directed physiotherapy (JDP) group. There was significant between group differences in static Yoga vs JDP and Static yoga vs Repetitive Yoga. Static yoga had lesser disability with respect to repetitive yoga and JDP at end of 4 weeks of intervention. There was significant between group differences in Static yoga vs Repetitive Yoga. Static yoga had better spinal flexion distance with respect to repetitive yoga and JDP at end of 4 weeks of intervention. This shows that static yoga reduced disability and improved flexion more than repetitive yoga and joint directed physiotherapy. Though there was significant decrease in disability at 4 weeks,
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				<p>overall group by time effects were not significant.</p> <p>Conclusion: The results suggest that all 3 interventions helped reduce disability and pain in subjects with CLBP. Initially patients were more comfortable doing repetitive yoga than maintaining the final posture. With practice they were able to maintain the postures. Therefore CLBP patients could be given a combination of repetitive yoga postures followed by static yoga posture for better compliance and outcomes.</p>
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