Scientific Evidence of Yoga Effectiveness

Thursday, April 18, 2013
Outline

- Introduction
- Components of Yoga
- Scientific Evidence of Yoga’s Effectiveness
- Conclusion
- Questions
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  - Creating awareness about Yoga
  - Understand capabilities of Yoga in
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    - Preventing health problems (prophylaxis)
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*Source: The Yoga Biomedical Trust, London, reproduced from "Yoga as Medicine", by Timothy McCall, M.D. (2007), p.5*
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Yoga and the Cardiovascular System

- **Yoga** retards progression and increases regression of coronary atherosclerosis in patients with severe coronary artery disease.
- **Yogic breathing** maintains better blood oxygenation (more efficient breathing).
- Reduces sympathetic activation during altitude (induced hypoxia).


Yoga and the Cardiovascular System (Contd.)

- **Rhythm formulas** that involve breathing at six breaths per minute **induce favorable psychological and possibly physiological effects**

- **Lung function parameters** (VC, FEV1, and PEFR) **also improved** after the practice of yoga

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Yoga and Cardiovascular Fitness

- **Mind-body exercise programs** will be a **welcome and necessary addition** to evolving **disease management** models that focus on self-care and decreased health care use.

Yoga and the Nervous System

- Yoga has been **proved to moderate emotional arousal** – EEG Power findings provide the first empirical proof of such moderating influence
Yoga’s Effectiveness on Nervous System

- Improvement in various psychological parameters like:
  - Reduction in anxiety and depression
  - Better mental function

RECOMMENDATION OF THE STUDY:

- A multi-centre, cross-cultural, blinded (difficult for yoga), well-randomized controlled trial, especially using a single yogic technique in a homogeneous population such as juvenile myoclonic epilepsy is justified to find out how yoga affects seizure control and QOL of the person with epilepsy.

References:

Yoga and Fitness

- Mind-body fitness programs may offer **therapeutic effects different from** those offered by **traditional body fitness programs**

- The study showed a statistically significant ($P < .001$) **improvement in vital capacity** across all categories over time. Conclusions: It is not known whether these findings were the result of yoga poses, breathing techniques, relaxation, or other aspects of exercise in the subjects' life.

---

Yoga and Stress Reduction

- The improvement in various parameters such as better sense of well being, feeling of relaxation, improved concentration, self confidence, improved efficiency, good interpersonal relationship, increased attentiveness, lowered irritability levels, and an optimistic outlook in life were some of the beneficial effects enjoyed by the yoga group indicated by feedback score.

- The results revealed that the **effects of stress was reversed** in significantly (P < 0.01) shorter time in **Shavasana**, compared to the resting posture in chair and a supine posture.

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Bhattacharya S, Pandey US, Verma NS
Udupak, Madanmohan, Bhavnani AB, et al


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- Statistically significant decreases in medical and psychologic symptoms and improvement in self-esteem were found. Many program completers reported dramatic changes in attitudes, beliefs, habits, and behaviors.

- We conclude that an intensive but time-limited group stress reduction intervention based on mindfulness meditation can have long-term beneficial effects in the treatment of people diagnosed with anxiety disorders.

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Yoga and Arthritis

- Two limited studies of yoga in osteoarthritis of the hands and carpal tunnel syndrome show greater improvement in pain than in control groups. Yoga uses stretching and improves strength so that it theoretically should be beneficial for some musculoskeletal problems. Yoga merits further study into its cellular and physiologic effects.

- Facilitation of higher physiological melatonin levels at appropriate times of day might be one avenue through which the claimed health promoting effects of meditation occur

Dash M, Telles S  
“Yoga” Garfinkel M, Schumacher HR Jr.  
*Biol Psychol* 2000 May;53(1):69-78  
“Acute increases in night-time plasma melatonin levels following a period of meditation” Tooley GA, Armstrong SM, et al
A preliminary study finds an association between meditation practice and levels of melatonin produced by the pineal gland.

Long-term yoga practice was responsible for a generalised reduction in chemoreflex
Yoga and Diabetes

- A number of Yoga Learners at the Temple were able to reduce blood sugar levels significantly and even give up insulin injections for that purpose.
- Oral evidence
Yoga’s Psychosomatic Influence

- Increased CRH immunoreactivity following meditation indicates, however, that physical exercise is not an essential requirement for CRH release.

- The usefulness of yoga in the prevention of stress and burn-out in health care professionals is emphasized.

**References**


Yoga’s Psychosomatic Influence (contd.)

- In the personality inventory the yoga group showed markedly **higher scores in life satisfaction and lower scores in excitability, aggressiveness, openness, emotionality and somatic complaints.**

- Significant differences could also be observed concerning **coping with stress and the mood** at the end of the experiment. The yoga group had **significant higher scores in high spirits and extravertedness.**

Yoga’s Psychosomatic Influence (contd.)

- Dominant Electroencephalographic activity in one cerebral hemisphere correlated with predominant airflow in the contralateral nostril, in a cycle lasting 25-200 minutes when awake ([*Human Neurobiology* 1983;2:39-43])

- Yoga postures, pranayama, relaxation and meditation are powerful tools for helping to stimulate or calm the immune response. And depending on the situation, yoga postures ... and deep pranayama can help relax the nervous system and boost the immune response.
Alpha Waves during Meditation

- Amplitude and intensity increased significantly during yogic meditation than during sleep dream-state or any other.
Yoga Effective for Backpain

- At 26 weeks, disability scores continued to be better in the Yoga Group than in Exercise Class or in the Self-Care Group.

Yoga Intervention in ADHD

- Yoga proved **superior to conventional motor training**. All children showed **sizeable reductions in symptoms of ADHD**

- Yogic Breathing and Meditation proved **effective in improving cognitive functions of Seniors (65-85 Years)** n= 135

*International Journal of Neuroscience June 2005*
Yogic Intervention in Individuals living with HIV/AIDS

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- Mental Health Index, Daily Stress Inventory etc showed positive changes
Yoga for Weight Reduction

- Regular yoga practice was associated with **attenuated weight gain**, most strongly among individuals who were overweight. Although causal inference from this observational study is not possible, results are consistent with the hypothesis that **regular yoga practice can benefit individuals who wish to maintain or lose weight**.

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Yoga Improves Quality of Sleep

- Reports on a study to be conducted at Swami Vivekananda Yoga Research Foundation, a University in Bangalore, India, on how yoga can improve sleep.
- General Research Articles:

Comment from Shirley Telles, leader of the research team; Information on the stage IV of sleep; Effect of yogic exercises on inmates of a home for the aged in Bangalore, India
Conclusion

- Stress is the root cause of over 80% of all sickness from common colds to cancer
- Health problems can be minimized through a well planned regimen of asanas and pranayama
- Scientific Evidence clearly demonstrates Yoga’s prophylactic and therapeutic effects.
THANK YOU AND NAMASTE
Health and Yoga: Yoga Naturally
Dr. S.V. Char

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_Semin Urol Oncol_ 1999 May; 17(2):111-8 "Meditation and prostate cancer: Integrating a mind/body intervention with traditional therapies " Coker KH.

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Left-sided UFNB improves spatial skills whereas right UFNB increases verbal skills (Int J Neurosci 1993; 73: 61-68)

Yoga Bulletin, Kripalu Yoga Teachers Assoc. 2001; "Balancing the Immune System with Yoga “ Jeff Migdow, M.D.
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Encyclopedia of Healing Therapies - Anne Woodham and Dr. David Peters
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