

## **THE BENEFITS OF YOGA: A BRIEF SUMMARY OF EVIDENCE-BASED YOGA RESEARCH**

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### **Background**

In 2011, Yoga Australia sought to review the available literature on studies that examine the effects of yoga. The method of data collection was to initially speak to experts in the field and the authors acknowledge that this review is by no means exhaustive. The following experts were contacted:

- Sat Bir Sing Khalsa PhD - Assistant Professor of Medicine, Harvard Medical School; Associate Neuroscientist, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital
- Dr Shirley Telles MBBS Ph.D. - Director of Research at Patanjali Yogpeeth, Haridwar, India. Head, Indian Council of Medical Research for Advanced Research in Yoga and Neurophysiology, a federal research center of excellence.
- Michael de Manincor BA(Hons) Grad Dip Ed, M Psych, PhD candidate; Founder & Executive Director, The Yoga Foundation; Director & Senior Lecturer, Yoga Institute, a leading yoga teacher training centre; a registered counseling psychologist; immediate Past President – Yoga Australia

### **Available Published Research – Some General Comments**

The results of available published research show yoga to be cost-effective, with a low incidence of adverse effects.



To date, most yoga research has been condition-specific, or relating to a particular life stage, or disorder, including:

- Ageing
- Anxiety
- ADHD (attention deficit/hyperactivity disorder)
- Addiction
- Asthma
- Back pain
- Cardiovascular disease and fitness
- Carpal tunnel syndrome
- Childhood development
- Diabetes
- Depression (including post-natal depression)
- Menopausal symptoms
- Multiple sclerosis
- Obsessive compulsive disorder
- Occupational health
- Osteoarthritis
- Seizure disorders
- Strength and flexibility

As the benefits of yoga become more evident and widely known, further studies are being undertaken.

## **A Sample of Conditions/Disorders/Lifestyle Stages Researched**

### **Anxiety**

In 2004, a review <sup>(1)</sup> of eight studies on the effectiveness of yoga for the treatment of anxiety and other anxiety associated disorders was carried out. The review found a number of encouraging results, including in relation to obsessive-compulsive disorder.

For more information, go to: <http://bjsm.bmj.com/content/39/12/884.full>



## **Cancer**

A 2009 review <sup>(2)</sup> evaluated 10 studies which explored the impact of yoga on the psychological adjustment of cancer patients. Positive results were found in relation to improved sleep, quality of life and stress levels, improved mood, increased energy and acceptance of their condition.

For more information, go to: <http://www.ncbi.nlm.nih.gov/pubmed/18821529>

For more information on other key yoga studies and research papers relating to cancer, go to: <http://www.gawler.org/cancer-and-mind-body-interventions-research>

## **Childhood development**

Yoga and meditation has been evaluated to be useful for children's development. Some of the school related benefits include anti-bullying, emotional balance, decreasing school behaviour referrals, increasing "time on task" and improvement in academic performance by reducing stress. Yoga has also been found to be differentiated from exercise in improving health related outcome measures (Marie et al.,2008); Ross & Thomas, 2010)

A 2005 review summarized the existing research indicating the benefits of programs including yoga to result in: increased self esteem, better work habits, higher grade point average, decreased psychological stress, less aggressive behaviour, better attendance and decreased absences from school (Schoeberlein & Koffler, 2005).

For more information see

Marie, D., Wyshak, G., & Wyshak, G. H. (n.d.). Yoga prevents bullying in schools. Available at <http://www.calmingkidsyoga.org/Gifs/YogaPreventsBullyingInSchool.pdf>

Ross A., Thomas S. The health benefits of yoga and exercise: a review of comparison studies. *Journal of Alternative Complementary Medicine* 2010 Jan; 16 (1):3-12  
[www.ncbi.nlm.nih.gov/m/pubmed/20105062/](http://www.ncbi.nlm.nih.gov/m/pubmed/20105062/)

Schoeberlein, D., & Koffler, T. (2005). *Current status of programs using contemplative techniques in k-12 educational setting: A mapping report*. Garrison, NY: Garrison Institute. Available at [http://www.garrisoninstitute.org/index.php?option=com\\_docman&task=doc\\_download&gid=56&Itemid=66](http://www.garrisoninstitute.org/index.php?option=com_docman&task=doc_download&gid=56&Itemid=66)



## **Depression**

A 2010 review <sup>(3)</sup> evaluated eight trials based on individuals with clinical depression and elevated depression symptoms. Benefits were found in relation to mindfulness, physical activity, decreased stress reactivity, sleep regulation, decreased rumination, regulating neurotransmitters, promotion of adaptive thinking, and promotion of behavioural activation.

For more information, go to: <http://www.ncbi.nlm.nih.gov/pubmed/20098228>

A 2005 review <sup>(4)</sup> evaluated five trials that explored yoga-based interventions and their effect on mild to severe depression. Initial indications were positive for treating depressive disorders.

For more information, go to: <http://www.ncbi.nlm.nih.gov/pubmed/16185770>

## **Diabetes**

A 2007 review <sup>(5)</sup> looked at 25 studies that evaluated the metabolic and clinical effects of yoga in adults with diabetes mellitus-2. Beneficial changes were found in several areas including glucose tolerance and insulin sensitivity, lipid profiles, blood pressure, oxidative stress, coagulation profiles, pulmonary function and specific clinical outcomes

For more information, go to: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2176136>

## **Epilepsy**

A 2010 review <sup>(6)</sup> of two studies concluded that yoga was valuable in helping to reduce seizure frequency and duration, but reliable conclusions could not be drawn due to sample size and methodological limitations.

For more information, go to: <http://www.ncbi.nlm.nih.gov/pubmed/10908505>

## **The Validity and Reliability of Yoga Research**

The rigor of yoga research is important to consider. The traditional gold standard in research is randomized control trials (RCT). As an example, one such study <sup>(7)</sup> compared yoga to stretching exercises or self-care <http://www.ncbi.nlm.nih.gov/pubmed/22025101> (as laid out in a self-care book for chronic lower back pain). Yoga was deemed superior to the self-care but not to conventional stretching exercises.



The reputation of the journal in which the research is published also has a considerable impact on the perceived validity of a study. For example, the Journal of the American Medical Association (JAMA) is held in high regard within academic circles, as are the studies it chooses to publish. An example of randomized yoga research trial published in JAMA includes an investigation into yoga-based intervention for carpal tunnel syndrome <sup>(8)</sup>  
<http://jama.jamanetwork.com/article.aspx?articleid=188150>.

The size and scope of a study is also important for generating reliable conclusions. As research on yoga evolves, more recent studies utilise larger sample sizes and longer trial periods. One such example is Yoga for bronchial asthma: a controlled study <sup>(9)</sup>  
<http://www.ncbi.nlm.nih.gov/pubmed/3931802>.

The scientific significance of the study impacts the reliability of the research. One such example is a study that researched the 'Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA levels' <sup>(10)</sup> <http://www.ncbi.nlm.nih.gov/pubmed/20722471>.

There are more studies currently being funded and researched on a global scale. Forthcoming results of newer studies are now being published at an increasing rate and are further validating the benefits of yoga.

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