

YOGA: The Practice and the Science

Wednesday 6th July 2016, Global Co-operation House, London
Organised jointly by the Janki Foundation & the Brahma Kumaris
REPORT

By Professor Sat Bir Singh Khalsa, Ph.D. (*instructor of Kundalini Yoga, director of research for the Kundalini Research Institute and the Kriplau Centre of Yoga & Health, Assistant Prof of Medicine at Harvard Medical School.*)
With response by Maureen Goodman (*Programme Director for BK in the UK*)

MC Toots Beckett welcomed everyone, briefly introduced the work of the two charities, the Brahma Kumaris and the Janki Foundation for Spirituality in Healthcare, and then introduced the theme of the evening and welcomed Prof Khalsa and Sister Maureen. There were about 150 people present and 115 had joined online.

Prof Sat Bir Singh Khalsa has been practising yoga since 1971 and actively researching it since 2001. He travels internationally, attending and running **Yoga Research Conferences**. He, therefore, understands the global perspective of the practice and science of yoga in modern society and the implications of that for society and health care. Yoga is not only the physical postures and exercises, he and his research colleagues view it more as a traditionally contemplative practice, seeing the physical components as being there to support the meditative component of yoga.

The popularity of yoga practice is becoming an international movement, greatly enhanced by the *International Yoga Day* introduced in December 2014 by Narendra Modi, the Prime Minister of India. It is held on June 21, northern Summer Solstice, and is observed by millions of people around the world.

This increase in the popularity of yoga is reflected in things like modern surveys showing the increase in people participating in yoga and by articles appearing in magazines such as *Life* and *Time* in the USA featuring actors and models doing yoga on the front covers. It has become part of modern culture and appears in advertisements to sell products, even by a big corporation like McDonalds, as well as being proclaimed as a useful therapy for medical conditions. Both Heathrow and Gatwick airports, along with nine major airports in the US, have a yoga room.

Originally, yoga was viewed as a practice for inner growth rather than as a form of medicine. The idea of using it for health became popular in 1963 when the Indian government commissioned a book on *Yoga Therapy* for general health. And, just as yoga came to the west, so has yoga therapy arrived, as featured in books like **Yoga As Medicine** and **The Principles and Practice of Yoga in Health Care**, and once again in an article in *Time Magazine* on *How Your Mind Can Heal Your Body* being featured on the front cover.

Of great joy to Prof Khalsa is the eBook he wrote on the psychophysiology of yoga, **Your Brain on Yoga** being endorsed by *Harvard Medical School*. Twenty years ago it was inconceivable that *yoga practice* and *Harvard Medical School* would be featured together on the same book cover. There is now such a large body of work looking at how yoga works mentally, emotionally and physically, that reviews have been written on it, and reviews have been written of the reviews. This reflects that it is a growing body of interest.

The *autonomic nervous system* is the main conveyor of information about emotion and stress in the body, and it is called that because it was believed to be *automatic*, with the understanding that there was no control over it. It was, therefore, important, when studies showed that this autonomic nervous system is consciously relaxed by yogic meditation. This finding is important for using yoga as a therapy as it illustrates the possibility of self-regulation, the ability of human beings to control how they feel internally. Being able to control stress in the body is a key factor in terms of yoga's benefit.

One of the most recent techniques of modern science is that of **molecular biology**. It was thought that the genes in our DNA could not be changed, but, modern science now knows that there are things that can change the activity of the genes. For example, smoking cigarettes can turn on genes that can cause cancer. It has now been found that when people who show high stress levels use yoga as a therapy the expression of the genes changes and their stress levels are lowered. So, yoga has the ability to affect our cellular biology at the molecular level.

The brain activity of a Buddhist meditator has been studied by a cutting edge neuro energy research machine that can look at which areas of the brain change during meditation. It creates a precise map showing how the brain works during meditation. In meditation the attention is specifically focused and this stops the mind from wandering. In this study, the practice of meditation is actually seen to change brain activity by shutting down some areas of brain activity while activating others.

Over time, the brain of the long term meditator changes in structure through *brain plasticity* in the same way as weight lifting works on the plasticity of the muscles. As energy is devoted to meditation, a meditator's brain is developed. While activity is observed in short term meditators, greater development takes place in long term meditators. Modern science is thus seeing that the benefits of yoga are not just a placebo effect.

One of the key features of meditation is that attention is controlled, stopping the mind from wandering. In a study by Harvard scientists, the consequences of stopping the mind wandering were looked at. Their conclusion being that regardless of what anyone is doing their mind will frequently wander, and that less happiness is felt when the mind is wandering than when it is not. Most wandering thoughts, it was found, are survival thoughts, being stressful and unhappy, so the majority of thoughts are negative in tone. When the attention is focused as in meditation, the mind is peaceful so greater happiness is experienced.

It was clear that long-time meditators experience less decline in *fluid intelligence*, the ability to reason and to think abstractly and solve problems, and they are less at risk of long term psychological disorders and mood disturbances. The more time given to mind-wandering, the more at risk of these disorders someone is. So, meditation is like the fountain of youth for brain functioning, not only is the intelligence level maintained, but so is the brain functioning architecture.

The greater benefit of long-term over short-term practice of yoga leads to understanding the importance of adopting the practice of yoga into the health system and into schools and other places of education. Learning these skills leads to life-long self-regulatory benefits which lead to happier, healthier people being more in control, less emotionally and stress reactive and feeling more positive.

Prof Khalsa shared many other studies that are being done illustrating the benefits of yoga practice for the reduction of things like stress, depression, anxiety, diabetes, obesity, substance abuse, trauma, violence and mental health, and how these are slowly becoming apparent to the scientific, medical, professional and educational worlds. This level of evidence has grown to the extent that the US will be holding its 5th symposium on yoga research in September this year. This body of research has just been published as a book called ***The Principles and Practice of Yoga in Health Care***.

Sister Maureen talked of the importance of knowing about the scientific backing for the effects of meditation, such as the plasticity of the brain. It helped us understand how Dadi Janki's brain functions so well at the age of 100 years, after having been through several illnesses. It seems she has the ability to regenerate herself on a molecular level because she comes back seeming a lot stronger. She does that through the practice of Raja Yoga Meditation.

The practice of Raja Yoga Meditation is the art of internal self-mastery and self-awareness by the focusing of the mind on the true self and connecting to the Divine through the daily study of spiritual knowledge. This keeps the mind from wandering into the areas of wasteful negative thoughts. This made it not surprising that one study touched on by Prof Khalsa showed those practicing Raja Yoga meditation (as taught by the Brahma Kumaris) to be generally happier than the control group.

The programme ended with some questions and answers, and Toots thanking the speakers, everyone who had helped in organising the event and the audience for coming as well as those who had tuned online.

The evening finished with a meditation commentary by Sister Maureen.

ENDS