

## SPECIAL ISSUE

# Yoga as Therapy in Psychiatric Disorders: Past, Present, and Future

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*Complementary and alternative medical treatment, yoga therapy in particular, is being increasingly used for treating psychiatric disorders. Although some claim that such a time-tested practice, yoga, does not need validation, standards of contemporary medical practice make it necessary to test these treatments through modern evidence-based research methods. This paper discusses yoga as a therapy in medical and psychiatric disorders, the challenges that it faces in becoming accepted by the general medical community, and directions for future research in this area.*

### Introduction

According to the definition used by the Cochrane Collaboration, “complementary and alternative medicine” (CAM) is a broad domain of healing resources that encompasses all health systems, modalities, practices, and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. Studies indicate that the use of CAM is increasing among the general population as well as the mentally ill. This trend has been noted in most mental disorders, but especially so in anxiety and depression (Eisenberg et al., 1998; Unutzer et al., 2000). Estimates for the use of CAM among persons with mental disorders range from 12.9% among patients with major depression (Wang, Patten, & Russell, 2001) to 56.7% of those with anxiety and 53.6% of those with nonmajor depression (Kessler et al., 2001). The rates may be similar or even higher in India and other developing nations, given the fact that modern medical facilities are at a premium and many CAM treatments originate from these countries.

### Yoga as a CAM Therapy

Yoga is classified as one of the types of mind-body methods under the rubric of CAM. The word “yoga” has been used in a variety of senses. Yoga has been a lifestyle practice for millennia for good physical and mental health as well as spiritual well-being. Secular as it is, yoga was formulated in a structured way, Asthanga Yoga (eight-limbed system), by the

sage Sri Patanjali. Asthanga Yoga comprises Yama (self-control), Niyama (observance of practices), Asana (assuming certain postures), Pranayama (regulation of breath), Pratyahara (restraint of senses), Dharana (steadying of mind), Dhyana (meditation), and Samadhi (contemplation). According to Patanjali, yoga is “Citta Vritti Nirodah,” meaning that it has a stabilizing effect on the mind. Yogacharya Sri Krishna said in the *Bhagavad Gita*, “Samatvam Yoga Ucyate”—equanimity is yoga. It is a method of attaining perfection through the control of the wayward elements in human nature. Clearly, the practice was a set of procedures to be followed with an objective of enlightenment, to be achieved in logical steps. The health benefits, physical and mental, are by-products. Going by the original objective, yoga needs to be practiced in totality as a lifestyle. However, most current forms of yoga mainly utilize the components of specific postures (*asanas*), breathing exercises (*pranayamas*), and meditation (*dhyana*) (Kessler et al., 2001). This may be because the other components require much more discipline and training than these three. The procedures adopted are hence referred to as “yoga-based” instead of yoga. Centuries upon centuries, the people of India have practiced yoga with immense faith and have reaped a deserving harvest. Schools of yoga have become increasingly popular and have grown many fold across the length and breadth of not only India but also the world. The logical development is therefore to use yoga to gain stability/equanimity in mental functions and relief for mental disorders.

Some believe that yoga should be used only for prevention and health promotion and not as a therapy for illnesses. The reality is that yoga is being increasingly used as a treatment method for various disorders, either alone or as an adjuvant to other therapies, as a recent review on yoga in the treatment of mood and anxiety disorders (Kessler et al., 2001) points out. Given this reality, evaluation of the evidence supporting its use becomes essential to provide reliable information to patients and doctors who may be considering using this therapy. Therefore, in the context of this paper, “yoga” is used to mean those yoga-based practices that are used as a treatment for mental or neurological disorders.

## Research Studies of Yoga in Psychiatric Disorders

Existing scientific standards for evidence in clinical research are graded on several levels. Case reports and case series form the lowest level of evidence. The open uncontrolled trials, controlled trials without randomization, randomized controlled trials, and double-blind randomized controlled (compared with placebo/active comparator) trials in that order have increasing levels of strength. The challenge continues to increase with each of these levels, more so in research with yoga as treatment for mental disorders. Many clinicians and researchers have attempted testing yoga as a treatment either solely or in addition to other treatments in several psychiatric illnesses. Yoga therapy is being used in disorders with diverse pathophysiological mechanisms, including diabetes mellitus, hypertension, atherosclerosis, and neuropsychiatric disorders. Allopathic treatment modalities (medications, surgeries, etc.) and yoga therapy thus differ in the philosophy that underlies their use in treating patients, and this difference must be borne in mind while developing and evaluating yoga as a therapeutic tool. If modern science has to accept yoga as a “therapy” for specific disorders, then there are many scientific questions to be dealt with. Many different levels of evidence for both efficacy and adverse effects will need to be documented before we can confidently “prescribe” yoga. For an authoritative review on this subject, see the excellent chapter by Bijlani (2008).

The success of yoga as a therapy has been variable. In the days of evidence-based practice, the support for yoga can be argued only if rigorously conducted clinical trials prove its efficacy. A recently published review on the use of yoga in depression (Pilkington, Kirkwood, Rampes, & Richardson, 2005) observed that fewer than 10% of the studies in this area can be considered as meeting such research standards. Clinical efficacy of a form of yoga (Sudarshan Kriya, SKY) has been documented in a series of patients with milder forms of depression attending outpatient services (Janakiramaiah et al., 1998). It may be difficult to assume that the patients improved only as an effect of SKY therapy, although the relative proportion of those who remitted was more in those who practiced SKY regularly. Also, patients who practiced the full form of SKY improved more than those who followed a “partial” form (Rohini, Pandey, Janakiramaiah, Gangadhar, & Vedamurthachar, 2000). If yoga works, is it as effective as other existing therapies? This can be tested in randomized clinical trials. In one such study, SKY was observed to have near-equivalent effects as that of existing therapies for depression (Janakiramaiah et al., 2000). This too will be contested by modern scientific researchers; is yoga better

than nothing (placebo) at all? Some attempts in this direction too have been successful. In a two-week trial, SKY practice reduced depressive symptoms in patients undergoing alcohol detoxification (Vedamurthachar et al., 2006), and the symptom reduction was lower in the group that was waitlisted and hence did not get SKY.

The scientific arguments against yoga have taken a different stand. What if the yoga-effects have occurred because of mere physical exercise components? Again, efforts have been made to address this critique. For example, Duraiswamy (Duraiswamy, Thirthalli, Nagendra, & Gangadhar, 2007) tested Yogasana against exercise as add-on interventions in outpatients with schizophrenia. Yogasana was more potent in reducing some symptoms. As both produced some improvements, the critique demanded a comparison with a waitlist arm as well. We recently completed a three-arm study of Yogasana, exercise, and waitlist in outpatients with schizophrenia and confirmed the efficacy of yoga as being better than either exercise or the waitlist condition (Gangadhar et al., 2010).

## Other Research Issues with Yoga in Mental Disorders

Selecting a yoga package for a disorder or symptom has been variable. It is noticeable that researchers have tested various yoga interventions for the same set of syndromal presentations or symptoms. Which literature should be cited to support such a choice? The traditional yoga literature prescribes yoga on the basis of a system that is totally different from that used in allopathic psychiatry. This challenge of matching a disorder with a package of yoga for treatment needs a consensus among yoga therapists. How many are willing to come out of the dogma/in doctrinated position and view the interventions objectively for scientific testing? Often yoga is recommended as a side-effect-free intervention, unlike drugs. This is as if yoga is a competitor to drugs, when this is not the case. The caution to be open to possible side effects of yoga can help improve documentation and hence lead to safer patterns of use. This logic, when extended, points to the issue of contraindications. For example, meditation may be contraindicated in psychosis (Walsh & Roche, 1979). Patients with a history of epilepsy may benefit from dropping the hyperventilation procedure of SKY or Kapalabhati. The interactions of allopathic drugs and yoga also merit documentation.

Clinical trials in psychiatry are vulnerable to some criticisms. Available methods of assessments of therapeutic outcome are limited by lack of objective parameters for measuring changes in psychiatric symptoms. A more

serious doubt that will be raised is as follows: What if patients merely reported benefits as they knew the treatment—yoga. This is called an expectation effect. This is very difficult to control as the society would well be aware of yoga through media, electronic and print. A circular, yet reasonable way of defending this stand would be to have a set of biological/objective measures that are possibly resistant to such expectation effects. When SKY was used as a sole form of treatment in depression, the amplitude of a brain electrical potential elicited to novel stimuli increased over 3 months and reached that of healthy control subjects (Murthy, Gangadhar, Janakiramaiah, & Subbakrishna, 1997). Plasma cortisol fell to lower levels in those getting SKY, and this fall paralleled the reduction in depressive symptoms (Vedamurthachar et al., 2006). Likewise, the accuracy with which patients of schizophrenia recognized a facial emotion was better if they received yoga and not merely exercise (Behere et al., 2010).

Clearly, these research findings point to the lack of standard solutions for yoga therapy research in psychiatry. These include a satisfactory placebo, methods to blind the patient and researcher to the intervention used, and an accurate biological correlate of the illness. Alternatively, neurobiological effects of certain practices can be rigorously demonstrated in healthy subjects. Some of these effects may have a potential to counter the neurobiology that produces psychiatric illness. This parallels a drug-discovery experiment leading to a drug being proved effective in clinical trials. For example, OM chanting, a procedure used in certain yoga schools, produced deactivation in certain limbic areas of the brain. Modern technology such as functional magnetic resonance imaging has helped such novel research (Kalyani BG, 2010). In patients with anxiety and depression these limbic areas have been observed to show increased activation. It remains to be tested if OM chanting produces clinical benefits in patients having anxiety and depression.

## Conclusions

Yoga was initially prescribed as a practice for personal growth and well-being and for this purpose may have to be practiced by those who have a sound mind. Seen in this background, use of yoga as a therapy for mental disorders can be viewed with suspicion. Although protagonists of yoga may seem satisfied that a time-tested procedure warrants no further “testing,” clinicians should demonstrate the application of yoga in the treatment of selected disorders in research studies that meet standards of modern research methodology. Only collaborative efforts by clinical and yoga researchers can bring about a solution to the above arguments.

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