

Impact of Yoga on Mental Health: A Study

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Introduction:

The conceptual background of yoga has its origins in ancient Indian philosophy. There are numerous modern schools or types of yoga (i.e., Iyengar, Viniyoga, Sivananda, etc.), each having its own distinct emphasis regarding the relative content of physical postures and exercises (asanas), breathing techniques (pranayama), deep relaxation, and meditation practices that cultivate awareness and ultimately more profound states of consciousness. The application of yoga as a therapeutic intervention, which began early in the twentieth century, takes advantage of the various psychophysiological benefits of the component practices. The physical exercises (asanas) may increase patient's physical flexibility, coordination, and strength, while the breathing practices and meditation may calm and focus the mind to develop greater awareness and diminish anxiety, and thus result in higher quality of life. Other beneficial effects might involve a reduction of distress, blood pressure, and improvements in resilience, mood, and metabolic regulation.

Khalsa stated that a majority of the research on yoga as a therapeutic intervention was conducted in India and a significant fraction of these were published in Indian journals, some of which are difficult to acquire for Western clinicians and researchers. In their bibliometric analysis from 2004, they found that 48% of the enrolled studies were uncontrolled, while 40% were randomized clinical trials (RCT), and 12% non-RCT (N-RCT). Main categories which were addressed were psychiatric, cardiovascular, and respiratory disorders.

Systematic reviews on the therapeutic effects of yoga, there is still a lack of solid evidence regarding its clinical relevance for many symptoms and medical conditions. For many specific indications and conditions, there is inconsistent evidence with several studies reporting positive effects of the yoga interventions, but other studies

are less conclusive. In some instances, these discrepancies may result from differences between the study populations (e.g., age, gender, and health status), the details of the yoga interventions, and follow-up rates. In the present paper, we summarize the current evidence on the clinical effects of yoga interventions on various components of mental and physical health. In general, the respective reviews (Table 1) and an Agency for Healthcare Research and Quality Report (AHRQ) evidence report on "Meditation Practices for Health," which cites also studies on yoga, include a heterogeneous set of studies with varying effect sizes, heterogeneous diagnoses and outcome variables, often limited methodological quality, small sample sizes, varying control interventions, different yoga styles, and strongly divergent duration of interventions.

Depression: It is found four relevant publications, including two reviews on the effects of yoga on depression, a description of studies on yogic breathing for depression, and one "summary". The reviewing authors have reported that the studies reviewed showed a large variety of diagnoses ranging from "major depression or some other type of diagnosed depression" to "elevated depressive symptoms". Although several randomized controlled trials (RCTs) reported beneficial effects of yoga interventions for treating depressive symptoms, the quality and quantity of the data from these studies appear insufficient to conclude whether there is substantial clinical justification to consider yoga as a treatment of depression. Compared to passive controls, the yoga interventions seem to be effective; when compared with active controls, not surprisingly, the effects are less conclusive. The study results are so far not sufficient in quantity and quality to determine whether studies with a focus on the *asanas* are more effective as compared to studies with meditation-focused or *pranayama*-focused styles. Thus, there is a strong need to conduct more conclusive studies with high methodological quality

and larger patient samples. Whether motivation of depressed patients could be a problem or not remains to be clarified. There has been an attempt to explore mechanisms of action and to understand the complete picture of the effects of yoga in depression looking at electrophysiological markers of attention, and neurotransmitters which were found to change with yoga.

Fatigue: It is found one systematic review/meta-analysis evaluating the effects of yoga on fatigue in a variety of medical conditions. The review included 19 RCTs and included healthy persons as well as patients with cancer, multiple sclerosis, dialysis, chronic pancreatitis, fibromyalgia, and asthma. Overall, a small positive effect with an SMD of 0.28 [0.24–0.33] was found. This standardized mean difference (SMD) describes the difference in the group mean values divided by the respective standard deviation; a value between 0.3 and 0.5 can be regarded as small, SMD between 0.5 and 0.8 as moderate, and SMD >0.8 as large. For those studies that included cancer patients ($n = 10$), the treatment effect of yoga was 0.20 (0.15–0.24); for all other studies that did not include cancer patients ($n = 9$), the effect was 0.46 (0.24–0.67). Nevertheless, there are some studies on cancer-related fatigue which indicate that treatment effects of yoga could be improved in well-designed future studies.

Anxiety and Anxiety Disorders: There is one systematic review examining the effects of yoga on anxiety and anxiety disorders [1], a Cochrane review on meditation therapy for anxiety disorders [10] (citing one yoga study [32]), a description of studies on yogic breathing (which are also addressed in the systematic review), and one summary. Most studies described beneficial effects in favor of the yoga interventions, particularly when compared with passive controls (i.e., examination anxiety), but also compared with active controls such as relaxation response or compared to standard drugs. However, there are currently no meta-analyses available which would clearly differentiate this important issue. At least the AHRQ report stated that “yoga was no better than Mindfulness-based Stress Reduction at reducing anxiety in patients with cardiovascular diseases”.

Stress: One systematic review describes the effects of yoga on stress-associated symptoms. Chong et al. identified 8 controlled trials, 4 of which were randomized, which fulfilled their selection criteria. Most studies described beneficial effects of yoga interventions. Although not all studies used adequate and/or consistent instruments to measure stress, they nevertheless indicate that yoga may reduce perceived stress as effective as other active control interventions such as relaxation, cognitive behavioral therapy, or dance. Also the AHRQ report stated that “yoga helped reduce stress” [30]. Here, the two included studies showed a significant reduction of stress scores in favor of the yoga group (SMD = -1.10 [CI: -1.61 to -0.58]).

Posttraumatic Stress Disorder: A single review article looked at the existing research on yoga for posttraumatic stress disorder (PTSD). Seven articles were reviewed which included 8 studies on PTSD following exposure to natural disasters such as a tsunami and a hurricane (1 RCT, 1 NRCT, 3 group study, 2 single-arm studies, 1 cross-sectional study) and 2 studies on PTSD due to combat and terrorism (1 RCT, 1 single-arm study). After a natural disaster, yoga practice was reported to significantly reduce symptoms of PTSD, self-rated symptoms of stress (fear, anxiety, disturbed sleep, and sadness) and respiration rate. Similarly, yoga interventions were able to improve the symptoms of PTSD in persons with PTSD after exposure to combat and terrorism. The interventions varied in duration from one week (when interventions were given on the site) to six months. The review suggested a possible role of yoga in managing PTSD, though long-term studies conducted with greater rigor are needed.

Further studies should identify which patients may benefit from the interventions, and which aspects of the yoga interventions (i.e., physical activity and/or meditation and subsequent life style modification) or which specific yoga styles were more effective than others. Larger-scale and more rigorous research is highly encouraged because yoga may have potential to be implemented as a safe and beneficial supportive/adjunct treatment that is relatively cost-effective, may be practiced at least in part as a self-care behavioral treatment, provides a life-long behavioral skill, enhances self-efficacy and

self-confidence, and is often associated with additional positive side effects.

Conclusion:

The degree to which yoga interventions are curative treatments remains to be determined; currently it is safe to suggest that yoga can be a beneficial supportive add-on or adjunct treatment. Jayasinghe stated that one may “conclude that yoga can be beneficial in the primary and secondary prevention of cardiovascular disease and that it can play a primary or a complementary role in this regard” [38]. Because of yoga’s low risk for side effects, when selecting appropriate postures for the population, and potential for actual positive side effects, it might be a promising candidate particularly for cardiac rehabilitation, depending on the patients’ abilities and willingness to adopt yoga practices with regularity. However, the meditative and self-reflective (cognitive) aspects of yoga could be problematic especially for patients with psychotic or personality disorders. Nevertheless, there is currently insufficient data on contraindications or side effects related to yoga practices in patients with psychological disorders. Taken together, while several reviews suggest positive benefits of yoga, various methodological limitations (including small sample sizes, heterogeneity of controls and interventions) limit the generalizability of these promising study findings. It is quite likely that yoga may help to improve patient self-efficacy, self-competence, physical fitness, and group support, and may well be effective as a supportive adjunct to mitigate medical conditions, but not yet as a proven stand-alone, curative treatment. Confirmatory studies with higher methodological quality and adequate control interventions are needed.

References

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