THE INTERNATIONAL ASSOCIATION OF YOGA THERAPISTS

Research Summary for Yoga Therapists: Yoga Therapy for Depression

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Research Summaries for Yoga Therapists are a service provided by IAYT to help yoga therapists navigate the twists and turns of the research landscape. The full reference can be found here:

Uebelacker, L., Lavretsky, H., & Tremont, G. (2016). Yoga therapy for depression. In: S. B. S. Khalsa, L. Cohen, T. McCall, & S. Telles (Eds.). *The principles and practice of yoga in health care.* Pencaitland, United Kingdom: Handspring Publishing, 73–94.

What is the problem, and what is known about it so far?

According to the American Psychiatric Association, major depressive disorder (MDD) is defined as a "period of 2 weeks or longer in which there is depressed mood or loss of interest or pleasure and at least four other symptoms involving changes in weight/appetite, sleep, activity level, energy, self-image, concentration or suicidality. To meet diagnostic criteria, these symptoms must significantly impair social, occupational or other functioning." This diagnostic definition sets MDD apart from other less intense forms such as "situational depression" where depression is related to a stressful situation confined within a short period, such as after the loss of a loved one. Current treatment options include psychotherapy; medication; residential treatments; and, in harder-to-treat cases, electroconvulsive therapy (ECT).

Prevalence (How common is the condition?)

According to the World Health Organization (WHO), MDD is estimated to affect 350 million individuals worldwide and disproportionately affects women.

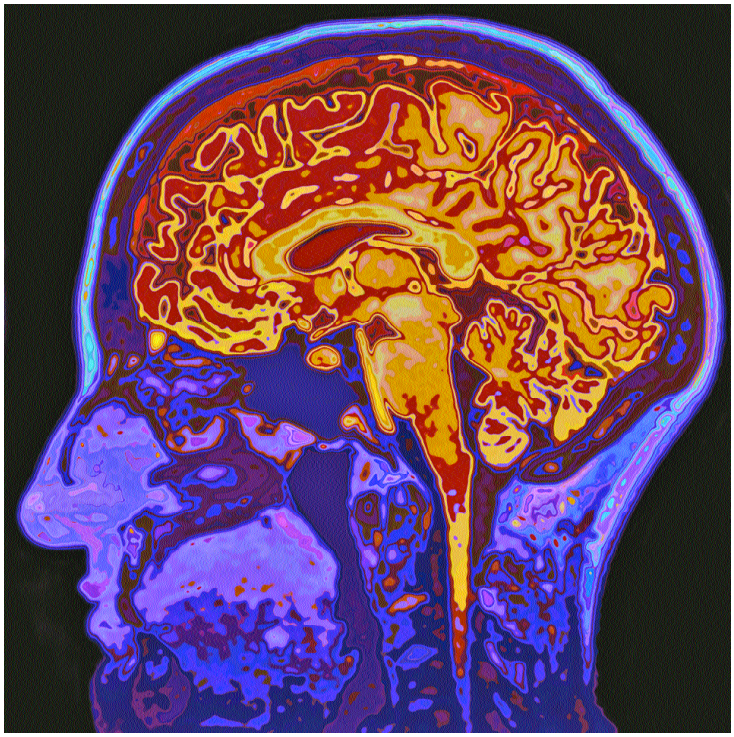
Etiology (What are the suspected causal factors?)

Major depression can be attributed to complicated interactions and interdependence among biological, psychological, and social factors.

Biological. Risk factors for MDD include chronic stress and dysfunctional coping strategies that may lead to dysfunction of the hypothalamic-pituitary-adrenal (HPA) axis. The HPA axis represents the complex interaction among three major endocrine systems and influences psychological wellbeing and many biological systems, such as immunity. Dysfunction of the HPA axis can be indicated by either high or low levels of the stress hormone cortisol, which when elevated can contribute to cognitive deficits and longer duration of depressive episodes. Further, it is postulated that the physiological response to environmental factors may contribute to an imbalance in the metabolism of neurotransmitters such as serotonin, norepinephrine, dopamine, and gamma-aminobutyric acid (GABA).

Psychological. Other psychological factors can co-occur with depression, such as anxiety, and deficits in cognitive control contribute to poor emotional regulation.

Social. Environmental factors such as childhood traumatic events, interpersonal difficulties, interpersonal loss, isolation, and ongoing stressors may contribute to depression.



Rationale for yoga

According to tradition, yoga is believed to cultivate happiness and reduce suffering with long-term, regular practice. Therefore, yoga for depression may seem intuitive. However, the clinical effects of yoga are difficult to measure in a research setting, so researchers tend to focus on qualitative outcomes as well as quantitative outcomes. While the underlying mechanisms contributing to overall effects of yoga (e.g., reduced suffering) are still not understood, yoga has been shown to improve biological systems, including neurotransmitter systems, the HPA axis, and the immune system.

This summary is an overview of the research presented in Khalsa et al. (Chapter 5). A search for published randomized controlled trials (RCTs) and systematic reviews of yoga for depression was conducted using the terms "yoga" and "depression." Only studies where depression was defined as "elevated level of depression" were included.

This resulted in three primary study diagnoses:

1. Clinical depression (as diagnosed)
2. Elevated levels of depression (undiagnosed)
3. Prenatal depression (elevated levels of depression during pregnancy)

1. Clinical depression

Why did the researchers review these particular studies?

This review was conducted to identify RCTs of yoga for individuals with clinical depression to determine the efficacy and safety of yoga for clinical depression. (See Table 5.1 in the book for specific descriptions of the trials included in the review.)

Who was studied?

The population addressed in each study included patients diagnosed with clinical depression. Clinical depression was defined as a diagnosis of MDD or persistent depressive disorder, which is defined by the presence of depressive symptoms more than half the time for at least 2 years.

How was the review conducted?

This overview of seven studies contained RCTs that compared yoga to various control groups such as no treatment, health education, partial yoga version of the intervention, ECT, and antidepressant medications. The yoga styles differed across all studies (e.g., Sudarshan Kriya yoga, Sahaj yoga, or Hatha yoga) but included some variants of pranayama, asana, and meditation. The method of delivery (e.g., manual or instructor), frequency (e.g., number of times/week), and duration (e.g., days/months in the trial period) differed across studies.

The outcomes used to measure depression were mostly standardized, reliable measures of clinical depression.

What did the researchers find?

Three out of seven studies reviewed found yoga to reduce symptoms of depression compared to a control or comparison group. All studies included in the review were limited by risk of bias and lack of standardization, which weakened the results. The reporting of methodological details in the studies was lacking, further increasing the risk of bias. The lack of clear reporting about the methods limited the ability to conduct a critical appraisal.

Were adverse events reported?

Adverse-event reporting is used to determine any incidents related to the protocol that may have occurred during the intervention trial and is used to evaluate safety. In this review, only two studies out of seven reported on adverse events related to the yoga intervention. Of the two that reported, no clinically significant side effects were reported. Without substantive reporting in all of the studies, it is impossible to draw conclusions about the safety of the yoga intervention.

What were the limitations and risks of bias?

Risk of selection bias was unclear due to the lack of reporting randomization procedures in six out of seven studies. In one study, the randomization sequence was not concealed, meaning that investigators could potentially anticipate group assignment.

Risk of detection bias was mixed. In some cases, the participants were blind to the yoga assignment, but this is very difficult to do. In other cases, the evaluators might have been blinded to the group assignment of each participant when evaluating outcomes; it was not clear in most of the studies whether this was the case.

Risk of attrition bias was mixed. Some studies had low dropout rates and other studies had high dropout rates. In the case of high dropout rates, the analysis to account for the loss of data was unclear.

2. Elevated levels of depression

Why did the researchers do this particular review?

This review was conducted to identify RCTs of yoga for individuals with elevated levels of depression to determine efficacy and safety.

Who was studied?

The population was made up of individuals considered to have elevated levels of depression, meaning those presenting with symptoms of clinical depression but with no formal clinical diagnosis.

How was the review conducted?

This overview of five studies covered RCTs that compared different styles of yoga to various control groups such as no intervention, waitlist control, relaxation, and aerobic exercise. (See Table 5.2 in the book.) The yoga styles differed across all studies (e.g., Kirtan Kriya yoga, Iyengar yoga, or Laughter yoga) but included some variants of pranayama, asana, and meditation. The method of delivery, frequency, and duration differed across studies.

The outcomes used to measure elevated depression were standardized, reliable measures.

What did the researchers find?

Three of the five studies reported improved outcomes for the yoga group compared to the control group. Two studies found no differences between the yoga group and control group after the yoga intervention.

Were adverse events reported?

Adverse events were not reported in any of the studies found in this review so it is impossible to draw conclusions about the safety of the yoga interventions.

What were the limitations and risks of bias?

In all cases, either the lack of clear reporting on methodological safeguards against bias or the standard for rigor in methodological design was not met, limiting the interpretation of the results.

3. Prenatal depression

Why did the researchers do this particular review?

The review was conducted to determine the effect of yoga on clinical depression in pregnant women.

Who was studied?

Four RCTs of yoga for clinically depressed pregnant women were identified.

How was the review conducted?

In this case, the studies were all conducted by the same investigators using the same Hatha yoga protocol in three studies and a combination of tai chi and yoga in the fourth study. The yoga intervention in three of the studies was one 20-minute session per week for 12 weeks. Prenatal yoga was compared to parenting education, waitlist control, social support, or standard care.

The investigators included standardized measures of depression outcomes.

What did the researchers find?

The investigators found that yoga was superior to the parenting education, waitlist control and standard prenatal care groups in terms of depression outcomes. However, no difference was found between yoga and the social support control groups.

Were adverse events reported?

No studies discussed adverse events.

What were the limitations and risks of bias?

Risk of selection, detection, and attrition bias was unclear or high in most cases.

Take-away message

Yoga research shows promising results in terms of yoga's impact on MDD; however, given the quality of the available evidence, the variety of outcomes and yoga styles, and the moderate effects found in the studies provided, it is difficult to draw conclusions about safety and efficacy until more rigorous studies are conducted.

Yoga therapy can be used for depression as an adjunct to clinical care with the following caveats: 1. determining the duration, frequency, and approach to the yoga practice should be undertaken on a case-by-case basis; and 2. a discussion with the client's treating physician is highly recommended.

According to the authors, "given the quality of the existing evidence, we believe a measured approach is warranted"; individuals are encouraged to try yoga as a way to cope with symptoms while remaining under their provider's care. Yoga therapists' role may include familiarizing themselves with the literature on yoga for depression so that they may facilitate communication between the client and physician. The yoga therapist would play an instrumental part in helping clients navigate the variety of yoga techniques and practices safely by tailoring the approach according to each client's needs.

Clinical relevance of yoga for depression

Largely due to methodological problems with the studies, the scientific question of whether yoga is an effective treatment for depression remains unresolved. This is very different

from concluding that the evidence suggests yoga does not work. Yoga therapy appears to be a cost-effective and safe healthcare modality, and in cases of severe depression would almost always be conducted in conjunction with medical care. We also know that a yoga practice may address and help alleviate a number of individual factors that may contribute to the development and, potentially, the perpetuation of clinical depression, including a dysfunctional autonomic nervous system, an excess or deficiency of stress hormones like cortisol, a sense of isolation from others, a lack of community (or sangha), low-quality sleep, poor posture, and inefficient breathing. Given this situation, it seems prudent for yoga therapists to continue using the methods that—in their experience and according to the yoga tradition—appear to be effective.