



# THE INTERNATIONAL ASSOCIATION OF YOGA THERAPISTS

## Research Summary for Yoga Therapists: Yoga Therapy for Obstetrics and Gynecology

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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:*

Booth-LaForce, C., Taylor-Swanson, L., Nagarathna, R., & Chaku, R. (2016). Yoga therapy for obstetrics and gynecology. In: S. B. S. Khalsa, L. Cohen, T. McCall, & S. Telles (Eds.), *The principles and practice of yoga in health care*, 445–468. Pencaitland, United Kingdom: Handspring Publishing.

### General methods

This summary focuses on improving women's health during pregnancy, menstrual issues, and menopause, as well as on treating disorders such as polycystic ovarian syndrome (PCOS). An extensive search using PubMed/Medline and CINAHL Plus was conducted for randomized controlled trials (RCTs) only. Trials in which yoga was combined with other complementary modalities (e.g., tai chi) were excluded. Six studies on yoga for menopause, eight studies on yoga for pregnancy, five studies for menstrual issues, and one study for PCOS were found. Note: The study on PCOS is the same study addressed in the summary on yoga therapy for a pediatric population and is not addressed here so as to limit redundancy.

### Menopause

#### *Definition of the condition*

Menopause is associated with vasomotor symptoms such as daytime hot flashes and/or night sweats. In addition, sleep and mood disturbances; pain; difficulty concentrating; and diminished energy, sexual functioning, and quality of life are other symptoms related to menopause.

#### *Usual treatment options*

Usual treatment options involve lifestyle changes (e.g., diet, exercise) and prescription medication such as hormone-replacement therapy.

#### *Prevalence (How common is the condition?)*

In the United States, more than 38 million women between 45 and 64 years old (88%) experience menopause-related vasomotor symptoms.

#### *Rationale for yoga*

While the underlying physiology of menopause is not well-understood, evidence has been found that hot flashes may be due to an imbalance in the autonomic nervous system (ANS). Evidence has also been found for both an increase in sympathetic activation during hot flashes and decreased parasympathetic influences during menopause. Yoga for menopausal symptoms has focused primarily on reducing vasomotor symptoms and improving quality of life. It has been suggested that yoga may have a balancing effect on the ANS, reflected in an increase in heart-rate variability. In addition, yoga has been found to decrease menopause-related symptoms such as mood disturbance, pain, and sleep problems.



### *Who was studied?*

Participants were women in various stages of menopause (peri, during, and post) with an age range between 40 and 65.

### *How were the studies conducted?*

- Six studies were RCTs.
- Yoga styles were mostly unspecified, with the exception of Integral, Iyengar, and Yoga Nidra. Most yoga protocols involved a combination of asana, breathing, meditation, and relaxation.
- Control group conditions were health and wellness education, waitlist, usual activity, passive stretching, exercise, or walking.
- The duration of the yoga intervention ranged from 8 weeks to 6 months. Frequency of yoga classes ranged from daily to 1 or 2 times per week. Class duration ranged from 35 to 90 minutes.
- Outcome measures included hot flash frequency, vasomotor symptoms, insomnia, menopause-related quality of life (MENQUAL, a menopause rating scale), and sexual quality of life.
- Sample sizes ranged from 54 to 355, including the control groups, with a total of 937 participants.

### *What did the researchers find?*

- One of six RCTs reported a significant reduction in the frequency of hot flashes in the yoga group compared to the control group. One study reported no difference between groups and one reported a trend in decreased hot flashes in both the yoga and the control groups, but the between-group differences were not significant.
- Three studies reported significant improvements in the yoga groups compared with the control groups on menopause-related quality of life or menopause-related symptoms.
- Three studies found decreases in sleep problems; however, one study did not find significant changes between the groups.
- Two studies found a decrease in stress measures after the yoga intervention.
- It is important to note that no studies reported on physiological changes, so it is not clear whether the underlying physiological rationale for using yoga was supported.

### *Were adverse events reported?*

Two out of six studies reported on whether adverse events had occurred, but determined that none were serious. However, one study did report the occurrence of muscle strain and ache, lower-back pain, and changes in strength or sensation in arms or legs, which may be typical of any participant starting a new physical activity.

## **Menstrual issues: Premenstrual syndrome and dysmenorrhea**

### *Definition of the conditions*

Menstrual issues include premenstrual syndrome (PMS) and dysmenorrhea. PMS involves emotional symptoms (e.g., irritability, tension, dysphoria), with or without physical symptoms, occurring after the ovulation phase of the menstrual cycle. Dysmenorrhea is defined as pain during the menstrual cycle that interferes with daily activities.

### *Usual treatment options*

Lifestyle changes related to diet and exercise are usually recommended. Other treatments include antidepressants, nonsteroidal anti-inflammatory drugs, diuretics, and hormonal contraceptives.

### *Prevalence (How common are the conditions?)*

In a review of studies on PMS, the estimated average prevalence was 47.8% worldwide with a range of 12%–98%. The prevalence of dysmenorrhea varies from 16%–91% in women of reproductive age. Reporting of symptoms of PMS worldwide may have varied due to cultural differences.

### *Rationale for yoga*

Stress has been implicated as a contributor to PMS and dysmenorrhea. Yoga has been shown to balance the stress response and to improve other mood disturbances.

### *Who was studied?*

Women ages 18 to 64 years old participated in the studies. One study involved women with dysmenorrhea and/or pathological amenorrhea (absence of menstrual periods) or irregular cycles. One study enrolled participants with PMS (regular cycle), and one study enrolled women with primary dysmenorrhea. The remaining two studies involved healthy women, and their inclusion did not specify any particular PMS or dysmenorrhea symptoms.

### *How were the studies conducted?*

- All five studies were RCTs.
- Yoga styles were not specified, but all studies involved a variation on postures, breathing, meditation, and relaxation.
- Control groups were not well-described.
- The duration of the yoga intervention ranged from 2 weeks to up to 6 months. Frequency of yoga classes was not well-documented. Three of five studies reported the frequency of classes as five to six times a week. Class duration ranged from 15 to 40 minutes in four of the five studies. (One study did not report class duration.)

- One of the five studies focused on PMS. Outcomes were blood pressure, heart rate, respiratory rate, electromyography, and galvanic skin responses. Other outcomes included pain intensity and duration of dysmenorrhea. One study measured hormonal changes.
- Sample sizes ranged from 60 to 150, with a total of 525 participants.

### *What did the researchers find?*

- One study focused on PMS symptoms and found healthier measures of blood pressure, heart rate, respiratory rate, electromyography, and galvanic skin responses. Note that this study did not measure PMS symptoms, and so it is not possible to draw conclusions related to PMS.
- One study focused on women with primary dysmenorrhea and found significant decreases in pain intensity and duration compared to the control group.
- Two separate studies with unspecified symptoms in healthy women found reductions of menstrual pain and other physiological and psychological symptoms compared to the control groups.
- One study included women with menstrual disorders and found decreased levels of thyroid-stimulating hormone, follicle-stimulating hormone, luteinizing hormone, and prolactin as well as decreased physiological measures (e.g., heart rate, blood pressure). However, the link between positive changes in hormones and dysmenorrhea is unclear.

### *Were adverse events reported?*

One out of five studies reported no serious adverse events. The remaining studies did not detail any information related to adverse events.

## Pregnancy

### *Definition of the condition*

Pregnant women undergo physiological changes that affect physical and psychological functioning throughout gestation, labor, and delivery. Maternal stress and anxiety during pregnancy can have adverse effects on the development of the fetus. Other problems related to pregnancy include physical complaints such as lower-back pain. Complications related to pregnancy include preeclampsia, intrauterine growth restriction (IUGR), gestational diabetes, and preterm delivery.

### *Prevalence (How common is the condition?)*

The 2015 estimated annual worldwide birth rate is 18.7 per 1,000 population according to *The World Factbook*. Varied sources place the worldwide rate of prematurity at about 10%, IUGR at 3%–7%, preeclampsia at 2%–8%, and gestational diabetes at 3%–10%.

### *Rationale for yoga*

Yoga practice may modulate the physiological response to stress as well as psychological fluctuations. For complications such as lower-back pain, asana may improve posture and awareness and change muscle tone in ways that reduce symptoms.

### *Who was studied?*

Women from 12 to 32 weeks pregnant participated in eight studies. Age ranges were not reported.

### *How were the studies conducted?*

- All eight studies were RCTs.
- Most studies involved an integrated approach with postures, breathing, meditation, relaxation, chanting, or lecture. Two studies specified the use of Hatha Yoga.
- Control groups included treatment as usual, postural orientation pamphlets, social support, standard care, and prenatal exercise routine.
- The duration of the yoga intervention ranged from 4 weeks up to 36 weeks. In several studies an initial intervention session was followed by intermittent classes every few weeks. Frequency of yoga classes ranged from one to three sessions per week. Class duration ranged from 20 to 60 minutes.
- Outcomes include Apgar score (how a baby is doing at birth), perceived stress, pregnancy discomfort, anxiety, depression, labor pain and duration, quality of life, and pregnancy-related lower-back pain.
- Sample sizes ranged from 59 to 122 (including control groups), with a total of 693 participants.

### *What did the researchers find?*

- Four studies focused on normal pregnancy. Compared to control groups, the yoga group showed improved quality of life and significantly decreased perceived stress, pregnancy discomfort, anxiety, depression, and labor pain and duration.
- One study comparing pregnancy-related lower-back pain reported decreased pain after the yoga intervention compared to the control group.
- One study with high-risk pregnant women (due to prior history, obesity, age, etc.) reported less pregnancy-induced hypertension, preeclampsia, IUGR, and diabetes, along with better Apgar scores for their babies among the yoga group as compared to the control group. In addition, this study reported higher fetal measurements (weight, size) in the yoga group.
- Two studies examined women with prenatal depression and showed significant improvements in mood and pain outcomes; however, these were not significantly different compared to the control groups.

### *Were adverse events reported?*

These studies did not report on adverse events.

### **What were the limitations of all three groups of studies?**

Control group details, participant inclusion criteria, diagnosis, demographics, and the outcome measures used were not well-specified and varied across studies. In all cases, there was a lack of clear reporting on methodological safeguards against bias, thereby limiting the interpretation of the results. The studies also differed substantially in design, population, yoga intervention, frequency, and duration, making it difficult to compare across other studies and limiting the generalizability of findings.

### **Take-away message**

Treatment recommendations for women's health issues include lifestyle changes such as changes in diet and physical activity in addition to drugs or hormone therapies. Many issues related to women's health are also aggravated by stress. Yoga may complement usual care on women's health as it has been shown to alleviate stress and address various lifestyle factors. Of the research presented, the data for the use of yoga during pregnancy provided the most evidence in support of yoga's positive physiological and psychological effects. Not all studies reported on adverse events, so a judicious approach to yoga therapy for pregnant women should be taken. Of note in some of the studies is the use of active control groups. Comparing a yoga practice to another group participating in a program that controls for time and attention is a stronger design in general.

### **Clinical relevance**

A number of RCTs have examined the efficacy of yoga for various issues regarding women's health, including menstrual complaints, health and wellbeing during pregnancy, and the transition through menopause. While methodological concerns prevent stronger conclusions, there is some scientific support for yoga improving some aspects of perimenopause, including decreasing the incidence of hot flashes and other symptoms and improving quality of life as well as sleep. While the differing types of yoga used and varying protocols lead to problems generalizing from the results, these also suggest that a variety of yoga approaches may be helpful. For menstrual disorders, there is some evidence that yoga can reduce some markers of stress like blood pressure and galvanic skin conductivity, reduce pain, and improve psychological wellbeing, although more research is needed. While researchers often failed to report on adverse effects (which should be corrected in future studies), the evidence for yoga in both normal and high-risk pregnancy is relatively strong and suggests improved outcomes for both mothers and babies. While caution should be exercised, particularly in the first trimester when the risk of miscarriage is high, yoga would appear to provide important benefits.