

Just Breathe: Mindfulness as Pain Management in Pregnancy

by Kimberlee Bethany Bonura, PhD E-RYT CYT

Abstract: Approximately 35% of women of childbearing age practice yoga, and 11% of pregnant women participate in prenatal yoga programs. Research indicates that yoga and mindfulness strategies offer benefits for improving health and well-being during pregnancy, for promoting positive outcomes during labor and delivery, and for support in postnatal recovery. The purpose of this article is to review current research evidence about mindfulness strategies, pain management, coping, comfort measures during pregnancy, labor and delivery, and postpartum recovery. The article will provide best practices for incorporating mindfulness strategies into the childbirth education program.

Keywords: yoga, meditation, mindfulness, pain management, prenatal, postnatal

Introduction: Yoga and Mindfulness During Pregnancy

Mindfulness based training programs have demonstrated effectiveness for promoting a variety of positive health outcomes, including both psychological and physical health outcomes. Mindfulness based programs are based on traditional Buddhist and Hindu practices, such as yoga, meditation, and the martial arts, which offer a present-moment focused training approach to awareness and non-judgment. In the clinical setting, mindfulness-based training programs are generally secular, non-spiritual and non-religious, so that they are adaptable and appropriate to individuals of varying backgrounds. Within the context of pain management,

mindfulness-based training programs offer awareness of the ever-changing nature of physical sensations, and separation between the physical experience of the body (i.e., pain) and the emotional and mental experience of the observer. This allows the individual to learn a greater sense of awareness of her body and a greater sense of emotional control regarding her ability to manage and tolerate the pain experience.

Veringa et al. (2016) indicate the relevance of adapting research focused on mindfulness-based pain management to the pain of pregnancy, including labor and delivery. Other researchers indicate the demonstrated effectiveness of specific mindfulness-based approaches, such as yoga, to prenatal health and childbirth education. According to Curtis, Weinrib, and Katz (2012), a systematic review of randomized controlled trials of yoga during pregnancy showed that yoga practice during pregnancy “may produce improvements in stress levels, quality of life, aspects of interpersonal relating, autonomic nervous functioning, and labor parameters such as comfort, pain, and duration. ... Yoga is well indicated for pregnant women and leads to improvements on a variety of pregnancy, labour, and birth outcomes” (p.1).

Rates of women participating in yoga and mindfulness training prior to or during pregnancy may vary based on location and access to yoga and mindfulness training programs. For instance, Curtis, et al. (2012) report that 35% of women between the ages of 28 and 33 years already practice yoga and may continue to do so during pregnancy. Campbell and Nolan (2016) reported that approximately 11% of pregnant women in the United Kingdom participated in prenatal yoga training programs. Pallivalappila et al. (2014) surveyed pregnant women in Scotland about use of Complementary and Alternative Medicine (CAM) practices and reported that 16% practiced yoga and 5.8% practiced meditation. In Yusof, Mahdy, and Noor’s (2016) survey of CAM use among Malaysian women, only 1% practiced yoga or meditation during pregnancy. According to a 2012 National Institutes of Health survey, of the 21 million US adults who practiced yoga, 82% are female and the majority are women of reproductive age (Clark, Black, Stussman, Barnes, & Nahin, 2015).

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The purpose of this article is to review the current literature regarding yoga and other mindfulness strategies (such as meditation and tai chi) for their potential use for pain management and as coping and comfort measures during pregnancy, labor and delivery, and during postpartum recovery. The article will offer practice guidelines for including mindfulness strategies in childbirth education.

From Fear of Childbirth to Mindfulness-Based Pain Management

According to Lowe (2002), pain during labor is subjective and multifaceted, and varies for each woman according to a combination of psychosocial, cognitive, and physiological factors. Psychological factors such as confidence, self-efficacy, and coping ability all improve a woman's ability to manage pain during labor and delivery (Curtis, et al., 2012). Prenatal anxiety is associated with reduced ability to manage pain during labor and delivery (Beebe, Lee, Carrieri-Kohlman, & Humphreys, 2007). Approximately 25% of pregnant women suffer from a high level of Fear of Childbirth (FoC), and 10% suffer from a severe level of FoC (Veringa et al, 2016). FoC has many negative consequences during pregnancy (including higher risk of sleep disturbance and depression), impact during labor and delivery, such as requests for epidural analgesia prior to any pain experience, and postpartum effects, including depression and lower rates of breastfeeding (Veringa et al., 2016).

Campbell and Nolan (2016) report that pregnancy self-efficacy beliefs affect both attitudes toward labor (for instance, anxiety and confidence about labor) and delivery preferences (such as maternal preference for medical interventions such as epidural and cesarean). They report that yoga training during pregnancy offers potential to improve self-efficacy and learn coping strategies for managing pain during labor and delivery.

Chuntharapat, Petpichetchian, and Hatthakit (2008) propose that yoga supports pain management during labor and delivery through the sequential effects of multiple pathways. They state that yoga practice should include multiple components, including asana (physical exercises), pranayama (breathing practice), dhyana (meditation and mental training), and yoga nidra (deep relaxation). The combined effects of a comprehensive yoga practice lead to several mind-body effects, including improved physical strength and flexibility, greater relaxation of the mind and body, improved sense of

calm in the mind and body, and improved self-awareness. These physical and psychological effects of yoga are integrated to support reduced perceptions of labor pain and an improved sense of maternal comfort during labor. In a randomized controlled trial with 74 pregnant women, yoga participants completed one-hour sessions; yoga participants reported higher levels of maternal comfort during labor and two hours after labor, less subject evaluated labor pain, and had shorter duration of both first stage of labor and total labor time. There were no differences between groups in labor augmentation, use of pain medication during labor, or newborn Apgar scores (Chuntharapat, Petpichetchian, & Hatthakit, 2008).

In a similar study of 60 pregnant women who were randomly assigned to either yoga training or control, yoga participants experienced significantly less pain-related measures during labor and delivery (Jahdi et al., 2017). For instance, participants in the yoga treatment group reported lower pain intensity at 3-4 cm of dilation, had decreased frequency of labor induction, shorter duration during second and third stages of delivery, and lower percentage of cesarean section. Of note in this study is that the intervention was both extensive and intensive, with yoga participants completing a one-hour class three times per week from the twenty-sixth week of pregnancy until delivery. This may indicate that more substantial mindfulness-based prenatal programs offer greater potential to help women fully master mindfulness-based skills for use as comfort measures during labor and delivery.

Yoga may also be an effective strategy for pain management during pregnancy. Back pain is a common ailment during pregnancy, with anywhere from one-third to 80% of pregnant women experiencing back pain at some point during pregnancy (Gibson, 2017). Martins and Silva (2014) conducted a randomized controlled trial with pregnant women who experienced pregnancy-related lumbar and pelvic girdle pain and report that pregnant women who received ten weeks of yoga training reported lower median pain scores and both a decreased response to pelvic pain provocation tests and gradual reduction in pain intensity over the ten weeks of yoga training. Learning yoga as a strategy to manage the pain of pregnancy without analgesics may offer multiple benefits; first in that it reduces the use of medication (and potential side effects) during pregnancy, and second that it offers practical training in applying yoga as a pain management strategy, and learning can be adapted to the labor and delivery environment.

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Best Practices for Incorporating Mindfulness into Childbirth Education

Curtis, et al. (2012) indicate that the majority of successful yoga interventions during pregnancy are delivered via an extended training program (i.e., 10 – 20 weeks of training), and use a gentle, integrated Hatha yoga approach including yoga asana (physical exercises), breathing exercises (pranayama), meditation (dhyana), and deep relaxation. Childbirth education programs that offer only a single session on yoga and/or mindfulness training or which focus only on yoga asana (physical exercises) may therefore be of limited utility and have limited impact on prenatal women. For instance, Babbar et al. (2016) conducted a randomized controlled trial offering a single yoga training session to experimental participants. Results on fetal and maternal delivery outcomes were nonsignificant, and the authors concluded that a single session of yoga is insufficient to yield the benefits of extended training in a mindfulness practice.

Short duration training programs may be effective when program intensity compensates for the limited duration. For instance, Duncan et al. (2017) reported the effectiveness of a 2.5-day mindfulness-based childbirth education workshop. *Mind in Labor (MiL): Working with Pain in Childbirth*, based on *Mindfulness Based Childbirth and Parenting Education* was delivered as a weekend workshop to first-time mothers during the late 3rd trimester. Study participants were randomly assigned to either participate in the mindfulness-based childbirth education program or a standard childbirth education program. After the workshop, mindfulness program participants reported higher levels of childbirth self-efficacy and mindful body awareness, lower rates of depression for the duration of pregnancy and at postpartum follow-up, and a decreased rate of opiate analgesia use in labor. Duncan et al. concluded that because childbirth fear is linked with lower labor pain tolerance, learning mindfulness-based strategies for pain management may reduce fear and improve the mother's ability to cope with pain during labor.

Duncan et al (2017) use the *Mind in Labor (MiL)* protocol, which is designed as a childbirth education program specifically within a mindfulness framework. Participants are taught strategies for coping with pain during labor using mindfulness-based techniques. For instance, “participants are guided to reframe childbirth pain as unpleasant physical sensations that come and go, moment by moment” and to “uncouple the sensory component of pain from its cognitive and affective components, with the objective of decreasing

fear and suffering related to the physical pain of childbirth” (p.4). When a laboring woman understands that the pain will ebb and flow, that she can observe the experience of pain objectively and that she can use breathing and coping strategies to cope when pain spikes, she is more able to feel capable of managing the pain; in contrast, if the laboring mother thinks of labor pain as continuous or escalating, she is more likely to experience fear, panic, and anxiety.

In Campbell and Nolan's 2016 review of the impact of yoga teacher's on pregnant women's prenatal yoga experience, they identified four key components within an effective prenatal yoga training program: (1) yoga teachers create a sense of sisterhood among class participants, allowing the women to support and learn from each other; (2) yoga teachers model labor during the yoga class, by teaching breathing strategies, awareness of one's body, and practice with working through physical movement, stress, and discomfort to practice for laboring; (3) building confidence with a positive emotional environment, and an emphasis on being in control of self; and (4) the class structure enhances learning, by creating a supportive atmosphere, offering various cues and techniques to support different learning styles and strategies, and facilitating a sense of balance and rhythm within the class. A key takeaway from Campbell and Nolan's review is that while mindfulness strategies may offer an effective approach for pain management during labor and delivery, the instructor and instructional style may be as important as the content itself. This aligns with research about psychotherapeutic outcomes, which indicates that while psychotherapy techniques account for only 15% of therapeutic outcomes, the therapist-client relationship may account for 30% of change (Lambert, 1992). In a qualitative review of CAM use during pregnancy, Mitchell (2016) states that “it could be argued that many of the transformational changes experienced by participants were mediated via the relationship they developed with the therapist rather than the specific CAM modality” (p. 92).

Conclusion

For pregnant women to fully gain the benefits of prenatal yoga and/or mindfulness training, and to effectively translate mindfulness strategies into the labor and delivery environment as comfort measures, they need (1) a caring instructor who offers (2) a supportive environment with (3) ongoing training, (4) repeated practice, and (5) an integrated approach. When combined, these factors offer a holistic and personalized approach to yoga and mindfulness training to support pregnant women in learning multiple methods for coping with pain during labor and delivery. For additional

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suggestions for incorporating mindfulness-based exercises into childbirth education, including examples of specific yoga exercises, see Bonura (2014) and Bonura, Spadaro, and Thornton (2016). During labor and delivery, the pregnant mother who is well-versed in yoga and other mindfulness strategies will find that her breath, her ability to observe without judgment and fear, and her own sense of self-confidence and self-efficacy all offer comfort and support.

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Kimberlee Bethany Bonura, PhD, is an Experienced-Registered Yoga Teacher and Registered Prenatal Yoga Teacher with The Yoga Alliance, a Certified Yoga Therapist with the International Association of Yoga Therapists, a Certified Personal Trainer and Certified Group Fitness Instructor. She is a Contributing Faculty member in the Walden University School of Psychology. Contact her at info@drkimberleebonura.com or learn more at www.drkimberleebonura.com.

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