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Potential for Prenatal Yoga to Serve as an Intervention to Treat Depression During Pregnancy

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A B S T R A C T

Background: When left untreated, antenatal depression can have a serious negative impact on maternal, and infant outcomes. Many affected women do not obtain treatment for depression owing to difficulties accessing care or because they do not find standard antidepressant treatments to be acceptable during pregnancy. This study examined the acceptability and feasibility of a gentle prenatal yoga intervention, as a strategy for treating depression during pregnancy.
Methods: We developed a 10-week prenatal yoga program for antenatal depression and an accompanying yoga instructors' manual, and enrolled 34 depressed pregnant women from the community into an open pilot trial. We measured change in maternal depression severity from before to after the intervention.
Results: Results suggested that the prenatal yoga intervention was feasible to administer and acceptable to the women enrolled. No study-related injuries or other safety issues were observed during the trial. On average, participants' depression severity decreased significantly by the end of the intervention based on both observed-rated and self-report depression assessment measures.
Conclusion: The current study suggests that prenatal yoga may be a viable approach to addressing antenatal depression, one that may have advantages in terms of greater acceptability than standard depression treatments. Research and policy implications are discussed.

As many as 13% of women experience a major depressive episode during pregnancy, with an even greater proportion reporting clinically significant depressive symptom elevations (Gavin et al., 2005). Numerous studies have documented adverse outcomes associated with antenatal depression (Davalos, Yadon, & Tregellas, 2012; Grigoriadis et al., 2013). Compared with nondepressed women, depressed pregnant women experience higher rates of preeclampsia (Cripe, Frederick, Qiu, & Williams, 2011), spontaneous abortion (Sugiura-Ogasawara et al., 2002), and prebirth complications (Palladino et al., 2011), and infants of depressed mothers are at higher risk of preterm delivery and low birth weight (Grote et al., 2010). Antenatal depression often precedes postpartum depression, which is associated with cognitive and emotional problems in children (Beebe et al., 2008; Murray, Cooper, Wilson, & Romaniuk, 2003).

Lack of Acceptable Treatments for Antenatal Depression

Although pharmacological and nonpharmacologic interventions have been developed to treat depression in the general population, fewer clinical trials have examined the efficacy and safety of depression interventions during pregnancy. Pregnant women have unique concerns that influence their treatment decisions, and the most available depression treatment in the community, antidepressant medication, is viewed by

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many women to be unacceptable during pregnancy (Battle, Salisbury, Schofield, & Ortiz-Hernandez, 2013). Fetal exposure concerns are common among both women and providers, and risk/benefit decision making can be complex owing to the large and at times conflicting literature addressing the safety of prenatal antidepressant use (Chaudron, 2013). Psychotherapeutic approaches such as interpersonal psychotherapy and cognitive–behavioral psychotherapy have shown promise in the treatment of perinatal depression (Sockol, Epperson, & Barber, 2011), but engagement in psychotherapy is often hampered by logistical or attitudinal barriers (Kim et al., 2010; O'Mahen & Flynn, 2008). Some pregnant women may be reluctant to seek mental health care owing to stigma; others may be less available owing to increased medical appointments necessary for routine prenatal care, or other tasks related to preparing for a new baby.

New Treatments Are Needed

Although public awareness of perinatal mental health issues has increased, the majority of depressed pregnant and postpartum women do not receive mental health care (Flynn, Blow, & Marcus, 2006). Owing to the high public health cost of untreated antenatal depression, there is a need to develop more acceptable strategies to treat mood symptoms during pregnancy (Battle, Uebelacker, & Magee, 2012; Freeman, 2011).

Prenatal Yoga: A Promising Approach

Prenatal yoga, a form of yoga tailored to be safe, gentle, and particularly helpful for pregnant women, represents a promising strategy for the treatment of maternal depression. One of the ways in which prenatal yoga may have an impact on depression is by increasing mindfulness, or nonjudgmental attention to the present moment. Mindfulness is directly taught in many yoga classes. This skill may generalize beyond classes, thereby reducing (negative) self-judgment, and/or increasing focus on the present moment rather than ruminating about the past or future. Yoga has been increasingly studied in nonperinatal populations as a potential treatment for physical health conditions, including back pain, cardiovascular disease, and discomfort associated with cancer (Sherman, 2012). Although limited, some trials have examined yoga as a depression treatment. To date, randomized controlled trials (RCTs) evaluating yoga for depression have been generally positive (Uebelacker et al., 2010); however, most have had significant methodological limitations, limiting firm conclusions that may be drawn.

Because prenatal yoga differs from yoga geared toward the general population in content, pace, and use of modifications, and because pregnant women have unique physiological needs, it is important to examine yoga specifically designed for the prenatal period. Although research has documented interest in prenatal yoga among pregnant women seeking depression treatment (Battle, Uebelacker, Howard, & Castaneda, 2010), little research has examined the efficacy of prenatal yoga in reducing symptoms among clinically depressed pregnant women. Most published prenatal yoga RCTs have focused on physical health outcomes rather than psychological well-being (Curtis, Weinrib, & Katz, 2012). One RCT with depressed women did find positive outcomes in the group receiving biweekly prenatal yoga classes for 12 weeks relative to a routine prenatal care group (Field et al., 2012). Another study of the same intervention (Field, Diego, Delgado, & Medina, 2013) found that improvements in depression were similar to those in a brief social support condition over a period of 12 weeks. However, generalizability of results for both trials are limited by reliance upon self-report scales, and use of a nonstandard, brief (20-minute) class format inconsistent with yoga classes offered in the community (Sherman, 2012). Further, although it is clear that the yoga intervention included a series of *asanas* (postures), there was no discussion of the style or tone of the classes (e.g., whether mindfulness was emphasized) and presence or absence of adverse events was not discussed. A recent, small, nonrandomized trial ($n = 18$) tested a 10-week mindfulness-based prenatal yoga intervention that utilized a more typical (90-minute) class format, finding that self-reported depression was significantly reduced after the intervention (Muzik, Hamilton, Rosenblum, Waxler, & Hadi, 2012). The intervention included a series of *asanas* and a clear focus on mindfulness. Although promising, a standard interviewer-rated depression scale was not used, and the mixed psychiatric sample included only a small number of women with a current depression diagnosis. In sum, initial studies provide encouragement regarding prenatal yoga as a strategy to lower symptoms among depressed pregnant women, but are not definitive.

The Current Study

The goal of the current study was to develop a prenatal yoga intervention for clinically depressed women using a class structure and content that is consistent with prenatal yoga taught in the community, and to evaluate the acceptability, feasibility, and preliminary efficacy of the intervention in an open pilot trial. In addition to careful measurement of changes in depression, we examined pre–post changes in mindfulness, a possible mechanism by which yoga may potentially lower depressive symptoms (Uebelacker et al., 2010). In the current study, we expected that mindfulness would increase over time and depression would decrease over time.

Methods

This study was approved for human subjects protections by our institution's institutional review board.

Participants

Eligibility

Participants met the following criteria: 12 to 26 weeks gestation with a singleton pregnancy; absence of medical problems for which prenatal yoga is contraindicated; 18 or older; English speaking; not a regular yoga practitioner; available to attend at least one class time; absence of significant alcohol or drug use during pregnancy; presence of a major or minor depressive episode during the pregnancy; absence of significant suicidality; absence of bipolar disorder, schizophrenia, or a chronic psychotic condition; absence of severe posttraumatic stress disorder, obsessive–compulsive disorder, or panic disorder; and a Quick Inventory of Depressive Symptomatology (QIDS; Rush et al., 2006) score between 7 and 20. We judged 7 to be the minimum score for which we might see clinically important change; scores over 20 represent severe depression that merits more extensive treatment and oversight.

Demographic, pregnancy, and psychiatric characteristics

We enrolled 34 participants. Table 1 provides demographic, pregnancy, and psychiatric characteristics of the participants. The sample was diverse with respect to race and ethnicity. Many