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Prenatal dysthymia versus major depression effects on the neonate

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Abstract

Depressed pregnant women were classified as dysthymic or major depression disorder based on the Structured Clinical Interview for Depression and followed to the newborn period. The newborns of dysthymic versus major depression disorder mothers had a significantly shorter gestational age, a lower birthweight, shorter birth length and less optimal obstetric complications scores. The neonates of dysthymic mothers also had lower orientation and motor scores and more depressive symptoms on the Brazelton Neonatal Behavioral Assessment Scale. These findings were not surprising given the elevated cortisol levels and the inferior fetal measures including lower fetal weight, fetal length, femur length and abdominal circumference noted in our earlier study on fetuses of dysthymic pregnant women.

Keywords: Prenatal dysthymia; Prenatal major depression

In two large meta-analyses on the prevalence of prenatal depression, the range was reported at 6.5–12.9% in one meta-analysis (Gavin et al., 2005) and at 7.4%, 12.8% and 12% for the first, second and third trimester, respectively, in a second meta-analysis (Bennett, Einarson, Taddio, Koren, & Einarson, 2004). Very few studies have identified major depression and dysthymia with depressed individuals (Yang & Dunner, 2001), and those that have, present conflicting findings with more symptoms noted for major depression in some studies (Klonsky & Bertelson, 2000), in contrast to more symptoms noted for dysthymia in others (Yang & Dunner, 2001), and even similar symptoms for both conditions (Flament, Cohen, Choquet, Jeammet, & Ledoux, 2001).

In a recent study on prenatal depression, we compared women with dysthymia and major depression during pregnancy (Field et al., 2007). The major depression group had more self-reported symptoms on the Center for Epidemiological Studies Depression Scale, on the State Anxiety Inventory, on the State Anger Inventory, on the Daily Hassles Scale and on the Behavior Inhibition Scale. However, the dysthymic group had higher prenatal cortisol levels and lower fetal growth measures (estimated weight, femur length and abdominal circumference) as measured at the first ultrasound ($M = 22$ weeks gestational age). Thus, the two types of depressed pregnant women appeared to have different prenatal symptoms with differential effects on their fetuses. In the present study, on a different sample, we assessed neonatal outcomes and performance on the Brazelton Neonatal Behavioral Assessment Scale for the newborns of dysthymic and MDD mothers.

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1. Method

1.1. Participants

The participants were 72 depressed mothers ($N = 33$ with dysthymia, $N = 39$ with major depression) and their infants (M age = 24.2 h, $N = 38$ females). The mothers averaged 1.2 parity, 28.4 years of age and 11.8 years of education. Their socioeconomic status was low to middle ($M = 4.3$ on the Hollingshead Index), and they were distributed 51% Hispanic, 28% African American and 21% non-Hispanic white. The two groups did not differ on these demographic variables.

1.2. Procedure

Two hundred pregnant women had been recruited at a University Hospital prenatal clinic during their first ultrasound visit ($M = 20$ weeks gestation, $R = 17$–22 weeks). Following informed consent, the 200 pregnant women were administered the Structured Clinical Interview for Depression (SCID) by trained research associates who were supervised by a clinical psychologist. Seventy-two of the women recruited were diagnosed with dysthymia ($N = 33$) or major depression ($N = 39$) based on the SCID. The mothers were called on the phone an average of four times over the remaining 5 months of pregnancy in an attempt to reduce potential attrition. The women were paid to call us after delivering their newborns to schedule their assessments.

1.3. Self-report measures

1.3.1. Structured Clinical Interview for DSM-IV Diagnoses (SCID) (American Psychiatric Association, 2000)

All women in the study were given the SCID-I (Non-patient edition: research version) to determine depression and anxiety diagnoses and to screen out other disorders including bipolar disorder, schizophrenia and other psychotic disorders. Spanish-only speaking women were administered the Spanish version of the SCID (Ascaso et al., 2003). None of the women were on antidepressants and none were receiving therapy. In our experience (including a recent survey sample), the majority (95%) of the depressed pregnant women who attend the university ultrasound clinic are not taking anti-depressants and are not in therapy. Anxiety was also assessed because of its noted comorbidity with depression and its noted effects on pregnancy (Glover, Teixeira, Gitau, & Fisk, 1999), although no anxiety diagnoses were made in this sample.

1.4. Neonatal measures

1.4.1. Birth measures

The gestational age of each newborn was estimated by the Dubowitz Scale (Dubowitz, Dubowitz, & Goldberg, 1970). This estimate is based on the assessment of neuromuscular and physical maturity. Other birth measures included birthweight, birth length and head circumference.

1.4.2. Obstetric and postnatal complications

Obstetric and postnatal complications were assessed by the Obstetric and Postnatal Complications Scales (Littman & Parmelee, 1978). The Obstetric Complications Scale (OCS) records 41 events related to the mother's health, pregnancy and delivery complications, infant's gestational age, birth and postnatal events, as well as additional treatment events. The OCS yields a single converted numerical score. The Postnatal Complications scale (PCS) includes 10 events and also yields a converted score. Higher scores are optimal. These data were retrieved from the women's medical records.

1.4.3. Brazelton Neonatal Behavior Assessment Scale

The Brazelton Neonatal Behavior Assessment Scale (BNBAS) (Brazelton, 1983) was given midway between feedings. The scale is comprised of 20 neurological reflex items and 27 other items summarized according to seven factors: habituation, orientation, motor behavior, range of state, state regulation, autonomic stability and abnormal reflexes. In addition, excitability and depressive behaviors were recorded. The Brazelton examiners were unaware of the infant's group assignment and were trained to a 0.90 reliability criterion prior to the study. This assessment was included