# Effects of Maternal Depression on Fetal Health

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## CASE REPORT

27-year-old G1P0 female at 18 weeks gestation with a past medical history of depression, post-traumatic stress disorder (PTSD), and military sexual trauma admitted for suicidal ideation with intent and plan. After admission, the patient began medical treatment with sertraline. After an episode of emesis patient declined all antidepressants thereafter. Patient participated in inpatient psychological counseling and was discharged after clinical stabilization. The patient was scheduled for psychiatric follow-up outpatient.

## BACKGROUND

Depression is characterized as disturbances in emotions, ideation, and somatic function. These changes can cause patients to experience a feeling of sadness, loss of interest in once enjoyable activities, appetite and weight changes, sleep disturbances, and suicidal ideation. Depression during pregnancy is most prevalent in the second and third trimesters.

According to the American College of Obstetricians and Gynecologists, patients should be screened for depression with the Edinburgh Postnatal Depression Scale and the Patient Health Questionnaire 9 at least once during the perinatal period. This often occurs at the comprehensive postpartum visit.

**49%** **of pregnant females are likely to receive any mental health treatment for depression compared to 57% of non-pregnant females**

## FETAL EFFECTS

### In Utero

Depression leads to alterations in the serotonin system and the Hypothalamic-Pituitary-Adrenal (HPA) Axis causing increased release of stress hormones. Increased stress hormones result in placental hypoperfusion and negative fetal effects such as low birth weight and fetal growth restrictions.

Maternal depression has also been noted to increase pro-inflammatory cytokines. These changes are most apparent during the second trimester and have downstream consequences leading to altered fetal heart rate variability, preterm birth, and low birth weight.

### In Childhood

Maternal depression can also permanently alter fetal cortisol reactivity causing increased risk of anxiety disorders, depression, attention deficit disorder, and cognitive disorders into adulthood.

**Up to**

**15%**

**of the emotional and behavioral outcomes in children can be attributed to maternal depression risk factors.**

## TREATMENT

As antidepressant use in pregnancy is not without risks to the fetus, psychotherapy is first-line for antenatal depression. However, the benefits of treatment generally outweigh the risks to the fetus. When deciding choice of medication, the efficacy of previous antidepressant use, familial responses to medications, and desire for breastfeeding should be considered. Selective Serotonin Reuptake Inhibitors (SSRIs) are recommended for initial treatment with Serotonin Norepinephrine Reuptake Inhibitors (SNRIs) being second line. Bupropion, Trazodone, Mirtazapine, and Tricyclic Antidepressants (TCAs) can be used for refractory depression. Paroxetine and Clomipramine should be avoided due to teratogenicity.

## RECOMMENDATIONS

- Broaden the focus of screening to include antenatal surveillance during the second and third trimesters with the PSQ-9 for depression screening.
- Consider desire for breastfeeding in selection of antidepressant medications.

## REFERENCES