

Stress and Reproduction

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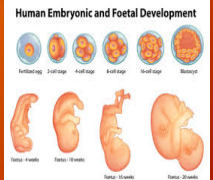
Why are we talking about stress?

- We know it affects our health and the health of our clients. Starting the conversation helps people to begin to assess their stress levels and what their current coping skills (or lack thereof) include
- Helping clients understand how it affects their health, but also the health of their baby and postpartum progression
- We are uniquely poised as midwives and in the care we deliver to address both prenatal and postnatal stress

"While postnatal psychological distress has been widely studied for many years, particularly with a focus on postpartum depression, symptoms of maternal depression, stress, and anxiety are not more common or severe after childbirth than during pregnancy"

What are all the way that stress affects reproduction?


- Fertility and getting pregnant
- Staying pregnant and viability
- Formation of baby's nervous system and adaptive responses



Human Embryonic and Foetal Development

What are all the way that stress affects reproduction (cont'd)?

- Postpartum depression
- Feeding difficulties and reflux (via microbiota transfer)
- Long-term impact in parenting



Stress → Fertility and Getting Pregnant

- Stress hormones and enzymes that inhibit reproductive hormones
 - Cortisol and the 'Progesterone Steal'
 - Alpha- amylase enzyme and carbohydrate metabolism
- Glucocorticoids and the HPA axis affects both and can be related to ongoing circulation
 - Sleep and circadian rhythms
 - Blood sugar regulation, metabolism, and weight
 - Immune function and allergies

Many Hands of Cortisol

'Pregnenolone/Progesterone Steal'

**Low Progesterone/High Cortisol
Due to Chronic Stress
(Pregnenolone Steal)**

Stress → Fertility and Getting Pregnant

- Environmental stressors and toxic elements
 - Environmental Working Group (ewg.org)
 - Body Burden
 - Improving your body's natural detox pathways
- Infertility PTSD
- Acute events

Stress → Staying Pregnant

- The primary hormone of pregnancy is Progesterone (Pro- and Gest-)
- Progesterone levels rise exponentially in the first few weeks until about 10 weeks
- Progesterone helps the body tolerate foreign DNA (a.k.a. the fetus)
- 'Progesterone Steal'

Stress → Baby's Development

- Early First Trimester stress effects on neurodevelopment
- Altered microbiome of mother transferred to baby
- More dramatic effects of males vs. females
- Infection and malnutrition also included

Stress → Baby's Development

- Stress affects preterm delivery and low birth weight
- Many acute and developmental issues stem from preterm birth (chronic lung issues, developmental delays, learning disorders)
- In utero stress also affects chronic disease (HTN, DM, CVD)

Stress → Baby's Development

- Whatever is in the blood stream is in the placenta
- Constriction of placental blood flow
- CRH (Corticotropin releasing hormone) levels predictive of term
- 'Placental Clock'


Stress → Baby's Development

- Marinating in stress hormones? What are the circumstances we can change?
- Mom's 'type'
- Work leave as early as 24 weeks, home visits, and care provider type can impact and even counteract these effects



Stress: It's Part of Life & What To Do

- Exercise (endorphins and self-confidence)
- Breathing (diaphragmatic, oxygen uptake)
- Yoga (parasympathetic shift and oxygen uptake)
- Meditation (Mindfulness Meditation, cumulative effects)
- Biofeedback (HeartMath Institute)



Mindfulness Meditation

- It's all based on the breath which is with you all the time and you can tune in or out whenever you want
- There is no right amount of time, right place, or right position
- The effects can be cumulative; even one minute is better than zero and *it does add up* in terms of the effect on our nervous system
- <http://www.mindful.org/mindfulness-how-to-do-it/>

Biofeedback and Heart Math Institute

- The heart is an electrical piece of equipment and our nervous system is an intricate electrical system
- Like all electrical systems we radiate and generate energy actual energy
- It possible to witness, align, and connect our heart and nervous system with others. It's electricity.
- <https://www.heartmath.org/resources/stress-and-well-being-survey/>

Technology and apps


How can technology be our ally?

- Calm
- HeadSpace
- Stop, Breathe, Think
- The Free Mindfulness Project
- Smiling Mind

Stress: It's Part of Life & What To Do

- Proper nutrition and blood sugar balance
- Environmental factors
- Sleep
- Hydration
- Immune Support

If we keep these things in balance, our adrenals and corticosteroids do not have to balance them for us



Taking Stress Management into Postpartum

- Normal stress versus Postpartum Depression and/or Anxiety
- Postpartum transition itself is physiologically stressful
- Stressful events and/or ongoing stress increases likelihood of PPD
- Nearly 20% of women suffer from *diagnosed* postpartum depression. This is recognized as severe, interfering with ADLs, and often lasts for the first 9-12 months of the baby's life
- Nearly 10% of women suffer from *recognized and diagnosed* postpartum depression that starts in the first trimester and carries into the first 6 months of the baby's life

Taking Stress Management into Postpartum

Knowing that postpartum depression is common in *both* women and men AND that the transition itself is stressful, how can we better help people who are becoming parents prepare for that?

- A) Birth videos that show people screaming in labor
- B) Classes that emphasize scary or fatal outcomes
- C) Birth and parenting storytelling that is intimidating
- D) None of the above
- E) Classes and providers that emphasized Stress Management and your mental/emotional health

Edinburgh Scale & Postpartum Assessment

- <http://www.fresno.ucsf.edu/pediatrics/downloads/edinburghscale.pdf>
- Most maternity care providers are using this tool and it has been recommended by the American Academy of Pediatrics for providers to use in their assessment of parents at wellness visits
- Also has its limitations; catches severe stress but not the ongoing, low-lying stress that is equally as corrosive
- The Parent Stress Scale assesses mindset:
<http://www.personal.utulsa.edu/~judy-berry/parent2.htm>

Postpartum Stresses Babies Too

- Postpartum depression and/or stress affects baby's ability to self-regulate. Lower scores in social engagement, more crying/fussing, and higher baseline of stress reactivity
- PPD in primary caregiver can translate to higher rates of depression, anxiety, and ADHD; parents experiencing major depression before 30 yo can increase depression in early childhood
- "Children of anxious mothers showed lower social engagement than children of control mothers but higher than children of depressed mothers. However, their physiological stress response was similar to children of depressed mothers."

Mitigating Stress in Kids

- "The mother's sensitive behavior played an important role in shaping infant outcomes. Sensitive mothering was related to the infant's social engagement and protected against the effects of maternal depression on the development of the child's social skills."
- "Maternal sensitivity also had a positive impact on the infant's physiological stress response and reduced the degree of physiological reactivity as measured by cortisol reactivity to stress"
- Essential Connection or Attachment Parenting

Stress: It's Part of Life & What To Do

- What are you going to do now and everyday?
- Every little bit actually does count and add up
- "Perfect is the Enemy of Done"
- Shaping your mindset and becoming more resilient now helps you and everyone who comes after you
- We are in control of everything that the world hands to us; We *are* in control of how we see it, process it, and how it specifically affects our reproductive health

What Else Can We Offer?

- Our adaptogenic herbs: Ashwagandha, Holy Basil, Rhodiola, Gotu Kola, Eleutherooccus, Oat Straw, Schisandra
- Our nervines: Oat Straw, Lemon Balm, Passionflower, Skullcap, Chamomille, Lavender, Catnip, Hops, Linden Flower
- Enhancing the microbiome! Probiotics that emphasize the Lactobacillus and Bifidobacteria species (specifically the L. reuteri species showing some potential)
- Adequate Vitamin D status (to modulate immune function, mood, and glucose regulation and indirectly affect stress compensation)
- Magnesium levels/supplementation (to address anxiety and sleeplessness, as well as insulin resistance)

Childbirth Connection

Common Maternity Care Practices That May Impact Epinephrine/Norepinephrine and Related Stress Hormones

<http://childbirthconnection.org/pdfs/CC.NPWF.HPoC.Report.2015.pdf>

Thank you!

Q&A TIME

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