DEPRESSION IN PREGNANCY

FLAME LECTURE: 39

TOOHEY / BURNS 3.7.17

LEARNING OBJECTIVES

- Describe how certain medical conditions affect pregnancy
- Describe how pregnancy affects certain medical conditions
- Recognize appropriate treatment options for mood disorders during pregnancy
- Prerequisites:
  - NONE
- See also – for closely related topics
  - FLAME LECTURE 40 – Anxiety in Pregnancy
  - FLAME LECTURE 134 – Postpartum Depression
  - FLAME LECTURE 235 – Depression in Women
  - FLAME LECTURE 135 – Postpartum Psychosis

INTRODUCTION

- Prevalence[1] of depression at any time from *conception* to *birth* was **14 – 23%**
- Can be under-diagnosed because common symptoms (i.e. changes in appetite or sleep) are also normal for pregnancy
- Prevalence of depression during pregnancy is similar to that in non-pregnant women of child-bearing age
- However, pregnancy affords more opportunities for screening depression due to increased prenatal physician's visits, and proper diagnosis is important given depression can now affect fetal/ neonatal development as well

RISK FACTORS[4]

- Life stress, including adverse life events
- Lack of social support
- Domestic violence

most significant!

- History of depression prior to pregnancy
- Maternal anxiety
- Unintended pregnancy or ambivalence towards the pregnancy
- Lower income or lower education
- Smoking
- Single status (non-cohabitation) or poor relationship quality
- Family history of depression (especially during pregnancy or postpartum)
- Discontinuing or decreasing antidepressant medication

CLINICAL CONSEQUENCES

Consequences on maternal health:

- Non-adherence to prenatal care
- Using tobacco, alcohol, and drugs
- Poor appetite and poor weight gain
- Insomnia
- Anxiety
- Worsening of depression (which may lead to development of psychotic symptoms)
- Suicidal ideation and behavior
- Not initiating breastfeeding
- Impaired maternal-infant bonding
- Postpartum depression

CLINICAL CONSEQUENCES

Consequences on fetal/neonatal health:

- Poses higher risk for abnormalities in neonatal development
  - Children of mothers with MDD born at 35 weeks vs. 39.4 weeks[2]
  - Higher cord blood cortisol levels[2], lower motor maturity[2], smaller head circumference[3], lower Apgars[3], higher maternal self harm[3]
- Increased stress and depression during pregnancy cause hormonal changes in fetus
  - Increased cortisol, catecholamines alter uterine blood flow
  - Also increase uterine irritability
  - Stress during pregnancy is associated with neuronal cell death and abnormal development of brain structures as well as sustained HPA dysfunction in the neonate
    - Dysregulation of the HPA axis may have a direct effect on fetal development

SCREENING – *Edinburgh Postnatal Depression Scale*

In the past 7 days:

1. I have been able to laugh and see the funny side of things

- ☐ As much as I always could
- ☐ Not quite so much now
- ☐ Definitely not so much now
- ☐ Not at all

2. I have looked forward with enjoyment to things

- ☐ As much as I ever did
- ☐ Rather less than I used to
- ☐ Definitely less than I used to
- ☐ Hardly at all

***3. I have blamed myself unnecessarily when things went wrong**

- ☐ Yes, most of the time
- ☐ Yes, some of the time
- ☐ Not very often
- ☐ No, never

4. I have been anxious or worried for no good reason

- ☐ No, not at all
- ☐ Hardly ever
- ☐ Yes, sometimes
- ☐ Yes, very often

5. I have felt scared or panicky for no very good reason

- ☐ Yes, quite a lot
- ☐ Yes, sometimes
- ☐ No, not much
- ☐ No, not at all

***6. Things have been getting on top of me**

- ☐ Yes, most of the time I haven't been able to cope at all
- ☐ Yes, sometimes I haven't been coping as well as usual
- ☐ No, most of the time I have coped quite well
- ☐ No, I have been coping as well as ever

***7. I have been so unhappy that I have had difficulty sleeping**

- ☐ Yes, most of the time
- ☐ Yes, sometimes
- ☐ Not very often
- ☐ No, not at all

***8. I have felt sad or miserable**

- ☐ Yes, most of the time
- ☐ Yes, quite often
- ☐ Not very often
- ☐ No, not at all

***9. I have been so unhappy that I have been crying**

- ☐ Yes, most of the time
- ☐ Yes, quite often
- ☐ Only occasionally
- ☐ No, never

***10 The thought of harming myself has occurred to me**

- ☐ Yes, quite often
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

SCORING:

QUESTIONS 1, 2, & 4 (without an *)
Are scored 0, 1, 2 or 3 with top box scored as 0 and the bottom box scored as 3.

QUESTIONS 3, 5-10 (marked with an *)
Are reverse scored, with the top box scored as a 3 and the bottom box scored as 0.

Maximum score: 30
Possible Depression: 10 or greater
Always look at item 10 (suicidal thoughts)

Originally developed for postnatal period but also used to screen for antenatal depression

TREAMENT - MEDICATIONS

- Physicians often hesitate to prescribe or continue psychiatric medications during pregnancy because of unknown effects of the medication on fetal development
- But no treatment itself poses serious risk!
  - 68% of pregnant women who stop meds during or just prior to pregnancy relapse[5]
    - Usually during the 1st trimester
    - Rate of relapse is higher than non-pregnant women
- **Physiology changes during pregnancy affect pharmacology:**
  - 50% increase in blood volume by 24-26 weeks
  - Glomerular filtration rate increases by 50% in the second trimester
  - Therefore, adjustments in doses of medications during pregnancy are often necessary

TREAMENT - MEDICATIONS

Tricyclic Antidepressants (TCAs)	Monamine Oxidase Inhibitors (MAOIs)	Serotonin Reuptake Inhibitors (SSRIs)

• **Imipramine, nortryptyline, amytriptyline**
• Are relatively non-selective
• Until recently were first line
• Have many side effects due to affinity to histamine, muscarinic & α-adrenergic receptors
• High overdose toxicity
• No increased risk for birth defects
• Good for women with frequent headaches
• Some neonatal withdrawal
	• **Parnate, Nardil and Marplan**
	• Require restricting tyramine-containing foods
	  • Ex. no ETOH, aged cheese, liver, orange pulp, smoked fish, packaged soups, etc.
	  • If not followed, can result in hypertensive crisis, intracranial bleed
	• Dangerous to use with a TCA
	• High overdose toxicity
	• Concern about ↓ uterine blood flow
	• Possible increased risk for birth defects
	• **AVOID IN PREGNANCY**
		• SSRI's are not a major risk factor for infant malformations
		  • Only **paroxetine** found to have increased risk for cardiac malformations
		• Persistant pulmonary hypertension: in 2006 Public Health Advisory warning released regarding SSRI's increasing risk for PPHN but since then there have been conflicting studies and FDA advises not to change practice in prescribing SSRI's.

Neonatal Withdrawal Syndrome[4]:

- Most often associated with TCA's, most commonly after 3rd trimester exposure
- Symptoms: neonatal tachycardia, cyanosis, tachypnea, clonus, irritability, feeding difficulties, temperature instability
- Usually self-limited, encourage breastfeeding

TREAMENT – MEDICATIONS[4]

Antidepressant Medications			
Generic Name	Brand Name	Pregnancy Risk	Lactation Risk
TCA's			
Amitriptyline	Elavil, Endep	C	L2
Amoxapine	Asendin	C	L2
Clomipramine	Anafranil	C	L2
Desipramine	Norpramin	C	L2
Doxepin	Sinequan, Adapin	C	L5
Imipramine	Tofranil	C	L2
Maprotiline	Ludiomil	B	L3
Nortriptyline	Pamelor, Aventyl	C	L2
Protriptyline	Vivactil	C	N/A
SSRI's			
Citalopram	Celexa	C	L3
Escitalopram	Lexapro	C	L3*
Fluoxetine	Prozac	C	L2*
Fluvoxamine	Luvox	C	L2
Paroxetine	Paxil	D	L2
Sertraline	Zoloft	C	L2

IMPORTANT LINKS / REFERENCES

- ACOG Practice Bulletin 92, April 2008 ("Use of Psychiatric Medications during Pregnancy and Lactation")

1. United States Agency for Healthcare Research and Quality
2. Marcus, et al, *Psychiatry*, 2006
3. Kurki, et al, *ObGyn*, 2000
4. Robertson, et al, *Gen Hospital Psychiatry*, 2004
5. Moses-Kolko El, et al, *JAMA*. 2005
6. Cohen et al, *JAMA*, 2006
7. UpToDate
8. ACOG Practice Bulletin 92, April 2008 ("Use of Psychiatric Medications during Pregnancy and Lactation")