Disclosures

• I have no relevant financial relationships with the manufacturers of any commercial products and/or providers of commercial services discussed in this CME activity
• I do not intend to discuss an unapproved or investigative use of a commercial product or device in this presentation
Objectives

• Understand the demographics of adolescent births in the United States
• Learn about risk factors and complications of adolescent pregnancies
• Be empowered, as pediatricians, to provide care and promote well-being to pregnant adolescent patients
• Gain knowledge of practices that pediatricians and their offices can support their adolescent patients and their families in the post-partum period and beyond
Demographics

- Teen birth rate was 15.4 births/1,000 females aged 15-19 years in 2020
- Total ~158,000 teen births in 2020
  - Down 8% from 2019
  - Down 75% from 1991
  - Approximately 15% of births were not “first births”
Figure 1: Birth rates for females ages 15-19, by race and Hispanic origin of mother, 1990-2020
Key Risk Factors for Adolescent Pregnancy

- Living in poverty
- Having a mother who gave birth before the age of 20
- Single-parent home
- Frequent family conflict
- Early sexual activity
- Early use of alcohol and drugs
- Low self-esteem
- Race and ethnicity
Neonatal Complications

• Increased risk of preterm birth
  – Shorter cervical length
  – Increased prevalence of lower genital infections
  – Developing reproductive organs
• Low birth weight infants
• Infant mortality
  – Highest rates of early neonatal, late neonatal, and post-neonatal deaths
Maternal Complications

- Gestational hypertension
- Pre-eclampsia/Eclampsia
- Obstetrical lacerations
- Post-partum hemorrhage
- Anemia
  - Physiologic dilution
  - Iron demands of the developing fetus
Conflicting Findings

Biological immaturity,

OR

Poor socioenvironmental factors?
But I’m A Pediatrician!!!

• Yes, BUT...

• You are optimally trained to provide comprehensive care for infants, children, and adolescents

• You understand the importance of creating a medical home for ALL patients
  – INCLUDING the adolescent parent!
The Pediatrician’s Role in Pregnant Patient Care
Identify the Pregnancy

• Take the history/get background knowledge BEFORE diagnosing!
  – Has your adolescent female patient been involved in a sexual relationship? Who is/are her partners?
  – Is there a history of sexual coercion or assault?
  – Any prior pregnancies? Outcomes if so?
  – Does she desire a pregnancy?
  – Has she already considered how she might manage a pregnancy?
  – Would it affect her living situation? Her plans for education or employment?
  – Any supportive adults in her life?
  – If not pregnant—would she like to begin a more effective contraceptive method?
Counsel on Options

- May occur at diagnostic visit or over several office visits
- May have other patient supports (parents, boyfriend, others) with her
- In Ohio:
  - Carrying pregnancy to delivery and raising the infant
  - Carrying pregnancy to delivery and making an adoption or kinship care plan
Refer to Prenatal Care ASAP

• Can reduce medical complications of teen pregnancy
• Some obstetric providers have added expertise in teen pregnancy
• Teen can then be referred back to you/the pediatrician following the pregnancy
Consider Nutritional Supplementation

- Competition for nutrients between mother and fetus
- High prevalence in nutritional deficiencies in adolescence
  - Calcium, iron, zinc, folate, riboflavin, vitamins A and D
  - Poor diets, poor knowledge of appropriate nutrition are factors
- Consider recommending vitamin supplementation, dietary education

BMJ, 2014
Advise Tobacco Avoidance/Cessation

• Adolescent girls are more likely to smoke or drink alcohol in pregnancy than women in other age groups
• Prior use of alcohol and/or cigarettes is associated with increases in sexual risk-taking → increases in unplanned pregnancies
• Screen teens for tobacco (and alcohol) use, assess readiness to quit
• Refer to Ohio Quit Line (1-800-QUIT-NOW), also has a chat function on website
  – Participants will work with a Quitline coach over the course of their quit journeys
Assess Support and Link to Resources

- Transportation, housing, accessible food
- Community-based options for adolescent parents
  - School-based, home visitation programs
  - Linked with reductions in subsequent pregnancies, government assistance, child abuse/neglect, and criminal behavior in adolescent mothers
  - Can also reduce risk of antisocial behaviors and substance use by children born to adolescents
  - Nurse-Family Partnership
  - Head Start/Early Head Start

PEDiatrics, 2021
Meet the Pediatrician

• Optimal for the pregnant teenager, partner, and (ideally) a trusted family member to schedule a prenatal visit with you during the 3rd trimester
  – Assess family resources
  – Assess parental well-being
  – Meet extended family members and address support systems
  – Discuss breastfeeding decisions
  – Answer questions
  – Start transition of adolescent mother back to the pediatrician
Following the Pregnancy...
Continue Care in Well Visits

• For both the adolescent mother and her child
• Perform psychological/depression screenings
• Discuss contraception planning
• Counsel on safe sleep practices
• Counsel on maternal educational plans

• Consider “Teen-Tot” visits
Manage Contraception

• Significant association between repeat adolescent births and decreased educational achievement, increased infant mortality, low birth weight
• Compounding negative socio-economic effects and short interpregnancy intervals
• Offer counseling and referrals (as necessary) for desired contraceptive methods in the immediate postpartum period, ideally
  – Focus on implants and IUD’s (LARC’s)
Encourage Breastfeeding

• Health benefits for both moms and babies
• Cost-effective, may result in longer interpregnancy intervals, may foster mother-infant bonding
• Adolescent mothers are less likely to initiate breastfeeding than older mothers
• Topic to address in “meet the pediatrician” or early well-visits
• Can provide lactation support in-office, through telephone support programs, or can refer to lactation counseling

Current Opinion in Obstetrics/Gynecology, 2014
Support Adolescent Fathers

• Estimated that 20-30% of teen pregnancies involve teen fathers at the time of birth
• Little research or attention generally exists on adolescent male fatherhood
• Pediatricians can encourage adolescent fathers to play a role in their child’s lives
  – Promote equal parenting
  – Provide community resources
• Children tend to have better outcomes in employment and education, are less depressed, and at lower risk of becoming adolescent parents
Screen for Intimate Partner Violence

- Prevalence of IPV amongst adolescent mothers is 7%
  - 2% in mothers >30 years
- This can be normalized by adolescent’s own childhood violent experiences
- Multiple screening tools exist
  - WAST (Woman Abuse Screening Tool)
  - HITS (Hurt, Insulted, Threatened, and Screamed)
AAP Clinical Report

• Care of Adolescent Parents and their Children
  – Pediatrics, 2021; 147(5).
  – https://doi.org/10.1542/peds.2021-050919
  – Guidance for the Pediatrician
    • 16 steps to making your practice/office ready to provide a high-quality, holistic medical home for your adolescent parents and their children
Manage Mental Health Concerns...
Perinatal Mental Health

Katherine Soe, MD
Assistant Professor of Pediatrics and Psychiatry
Cincinnati Children’s Hospital Medical Center
Univ of Cincinnati College of Medicine
March 28, 2023
Disclosures

• None
Outline

• Background and Epidemiology
• Signs/symptoms of perinatal mood disorders
• Initial management of perinatal mood disorders
• Emergencies
• When to involve subspecialists
• Additional resources
Objectives

• Gain confidence in early recognition of perinatal depression and anxiety
• Feel comfortable regarding the initial approach and management of perinatal depression and anxiety
• Recognize when to involve subspecialists
• Gain awareness of additional resources to address perinatal mental health
Epidemiology of perinatal depression

• 1 in 7 women experience perinatal depression
• Twice as common as gestational diabetes (3-7%)!
• Mental health conditions, including suicide, are a leading cause of pregnancy-related deaths
• When do symptoms start?
  – More than half perinatal depression begins prenatally
  – Up to 20% of pregnant women will experience a depressive disorder while pregnant
  – Postpartum: 10-15% of mothers
• 10% of fathers experience depression and anxiety in perinatal period

Lestrat 2011, CDC 2022, O’Brien 2017
Perinatal anxiety

• Anxiety commonly comorbid with perinatal depression, often pre-existing
• 11-20% both prenatally and postnatally
• Associated with adverse perinatal outcomes
  – Less medical care, poor nutrition, substance use, resource loss
  – Insecure mother-infant attachment
• Strong predictor of perinatal depression

Kendig 2017
Adolescent pregnancy and parenthood

• Higher rates of:
  – Depression (16-44%), more likely to persist postpartum.
  – Suicidal thoughts (19%), suicide attempts (9%)
  – Substance abuse (11-52%)
  – PTSD: 2-3 fold rate victimization

• More likely impoverished, limited social support, parents with lower education and employment

• Disproportionately African American and Latina

• Strength-based focus – social and functional supports key

Hodgkinson et al 2014
Perinatal depression affects birth outcomes

Increased risk of maternal and infant morbidity and mortality
- miscarriage, pre-eclampsia, C-section
- substance use
- LBW, preterm, NICU
- Inability to support breastfeeding
- Developmental and cognitive delay, behavior problems
- Toxic stress, insecure attachment
- Higher cortisol levels in adolescents

* Linked to Insecure attachment *

Halligan 2004, Kendig 2017
Symptoms of perinatal depression and anxiety

• Persistently sad, irritable
• Concentration or decision-making impaired
• Anxiety around infant
• Feeling guilty or inadequate
• Apathy toward family, infant, prior enjoyment
• Suicidal thoughts
• Racing thoughts, not sleeping (when able) with distinct mood change
Baby Blues or Depression?

**Baby Blues**
- up to 2 weeks
- Emotional, labile mood

**Depression**
- Over 2 weeks
- Guilt, worthlessness
- Functional impairment
- Suicidal thoughts
Screening and treating maternal depression can affect outcomes

• 80% of maternal depression treated by primary care
  – Screen mother AND father at well child checks
  – Grade B recommendation for PCP to screen postpartum
  – Considered EPSDT pediatric service due to benefit for child

• STAR*D-Child (2008)
  – Decreased maternal depression severity associated with decreased child’s psychiatric symptoms at 1 year, improved functioning in child

Pilowsky 2008
Postpartum Psychosis

- 1-2/1000 births, but >70% of bipolar disorder
- 24hr-3 weeks postpartum
- Hallucinations, bizarre delusions, disorganized cognition
- Rule out delirium due to medical cause
- Think Bipolar disorder.
- Sleep is important!!
- Infanticide risk 4% if psychosis

Bergink 2016, Osborne 2018
Risk factors for perinatal mood disorders

- History of depression or mood disorder
- Family history mood disorder
- History of hormonal mood changes (PMDD)
- Substance use
- Trauma, DV
- Isolation
- Poverty
- Infant colic
Risk factors for suicide

- History of suicide attempt, especially high lethality
- Recent attempt
- Current plan or intent
- Substance use
- Poor social support
Screening for perinatal depression

• History!
• Edinburgh Postnatal Depression Scale (EPDS)
  • 10 questions, 0-3 pts each
    – Available in Spanish
    – Includes anxiety
    – Interpretation: 13+ probable depression, 10-12 possible
• PHQ-9
• Perinatal Anxiety Screening Scale (PASS) (Somerville 2014)
• Consider screening for bipolar disorder with the Mood Disorders Questionnaire
Emergency!

-Self-harm/suicidal thoughts (on EPDS or interview)
-Postpartum Psychosis

Refer to local emergency service
Keep someone in room with mom and baby if possible
Initial management

Assess risk

Therapy

Medication – risks of untreated, risk of meds
  Moderate/severe depression (current or prior)
  Suicidal ideation
  Functional impairment
  Psychosis
  Comorbid anxiety

If on medication already, counsel to **CALL YOU**!
Do NOT suddenly stop meds without calling.
Medications in pregnancy: Antidepressants

- Drug concentration lower in pregnancy, increases after birth
- No increased risk of miscarriage and stillbirth with SSRI/SNRI exposure during pregnancy\(^1\)
- SSRI not associated with cardiac defects\(^2\)
- SSRI during pregnancy lowered risk for preterm birth\(^3\)
- No association with PPHN
- No more problem behaviors, autism, neurodevelopmental disorders

\(^1\) Andersen 2014, \(^2\) Huybrechts 2014, \(^3\) Wisner 1009
Neonatal Adaptation Syndrome

- After SSRI exposure in utero
- Most common: Irritability, hypertonia, jittery
- Less common Trouble feeding, tremor, transient tachypnea
- Mean length of hospital stay postpartum 2 days

Moses-Kolko 2005
Medication monitoring

• Antipsychotics
  – LFTs, A1C, FLP, weight
  – Stiffness, CPK
• Lamotrigine: rash, LFTs
• Valproic acid: VPA level, LFTs, platelets, *pancreatitis*
• Carbamazepine: CBZ level, CBC, LFTs
• Lithium: BUN/Cr, thyroid, CBC
Duration of pharmacotherapy

• Generally suggest 9-12 months after doing well

• Relapse risk significantly higher if
  – severe or recurrent depression\(^1\)
  – 4+ MDD episodes\(^2\)

\(^1\)Bayrampour 2020, \(^2\)Cohen 2006
Breastfeeding

• Treatment often outweighs risks of untreated depression/anxiety or psychosis, risk of not breastfeeding - many generally safe options
• What worked before?
• Infant plasma levels LOW
• SSRIs—sertraline, escitalopram
• Antipsychotics (second gen)—quetiapine, olanzapine, risperidone
• Antiepileptic mood stabilizers moderate risk – lamotrigine, valproic acid, carbamazepine
• Lithium – higher risk

• LactMed Database: www.ncbi.nlm.nih.gov/books/NBK501922/
• Reprotox: https://reprotox.org/
Teen program interventions

• Teen-Tot
• Home visiting
• The Young Parenthood Program – more positive parenting esp among fathers
• Strong Foundations – coparenting adolescents

Hodgkinson et al 2014
When to refer to psychiatry

Severe depression, suicidality
Concern for bipolar disorder (positive screen or history)
Concern for psychosis
High risk medications
Out of comfort zone
Important Resources

• 988 Suicide Crisis Line
• Postpartum Support International (PSI)- postpartum.net
  – Perinatal Psychiatric Consult Line
    Helpline: 800-944-4773
  – Free materials
• MCPAP for Moms – mcpapformoms.org
• MotherToBaby- MotherToBaby.org
  – Patient-friendly summaries
• NIH Mom’s Mental Health Matters – FREE materials
• NCRP - ncrptraining.org/
  – perinatal psychiatry curriculum (free if trainee)
• ACOG – acog.org

Breastfeeding

• LactMed Database: www.ncbi.nlm.nih.gov/books/NBK501922/ -- also has free app
• Reprotox https://reprotox.org/
Take-Home Pearls

- Perinatal depression and anxiety are common and affect both maternal and infant outcomes
- You can help screen and provide initial management for these disorders
- Treating perinatal mood disorders can improve outcomes. Many fairly safe options are available.
- Many resources are available! You may also refer to psychiatry
- Overall goal is maternal euthymia, optimize outcomes for mother, baby, and family
Thank you!

Questions?

Contact: Katherine.soe@cchmc.org
ODH Resources

• Home Visiting (this link has a button to make a direct referral)

• WIC is a great nutrition and education support program for pregnant/breastfeeding women and children up to age 5 years:
  https://odh.ohio.gov/know-our-programs/Women-Infants-Children/WIC-Clinics

• ODH sponsors a 24/7 breastfeeding hotline that can help support women who are breastfeeding, experiencing problems, etc.
  https://odh.ohio.gov/know-our-programs/Breastfeeding/breastfeeding-hotline
References

- Cohen et al. (2006). Relapse of major depression during pregnancy in women who maintain or discontinue antidepressant treatment. JAMA,295:499-507