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FAMILIES THRIVE WITH GOOD MENTAL HEALTH

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ADHD Treatment in Perinatal Patients

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Disclosures

I have no relevant financial relationships to disclose.

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Objectives

- Review major known risks associated with untreated ADHD in perinatal patients
- Review Diagnosis/Differential Diagnosis of Peripartum ADHD
- Overview non-pharmacological options for perinatal patients with ADHD
- Discuss major known risks associated with pharmacological treatments for ADHD during the perinatal period

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A Case

- A 33 year old primigravida presents for an initial evaluation.
- Diagnosed with ADHD in college and used Vyvanse with good effect and tolerability since early 20s.
- Was advised to discontinue medication upon pregnancy.
- Since pregnancy, patient cannot complete tasks, has received warnings about performance at work, and last week experienced a minor motor vehicle collision. She is tearful, feeling ineffective and worthless.
- EPDS: 12

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Scope:

- ADHD affects ~4.4% of American adults[1]
- Estimated ratio in adults is 1.6 male to 1 female[2]
- No longer viewed as “just a childhood illness”
  - An estimated 60% of children with ADHD will continue to have clinically relevant symptoms as adults[3]
  - Inattentive symptoms in particular frequently persist, although hyperactive symptoms may also persist in some cases

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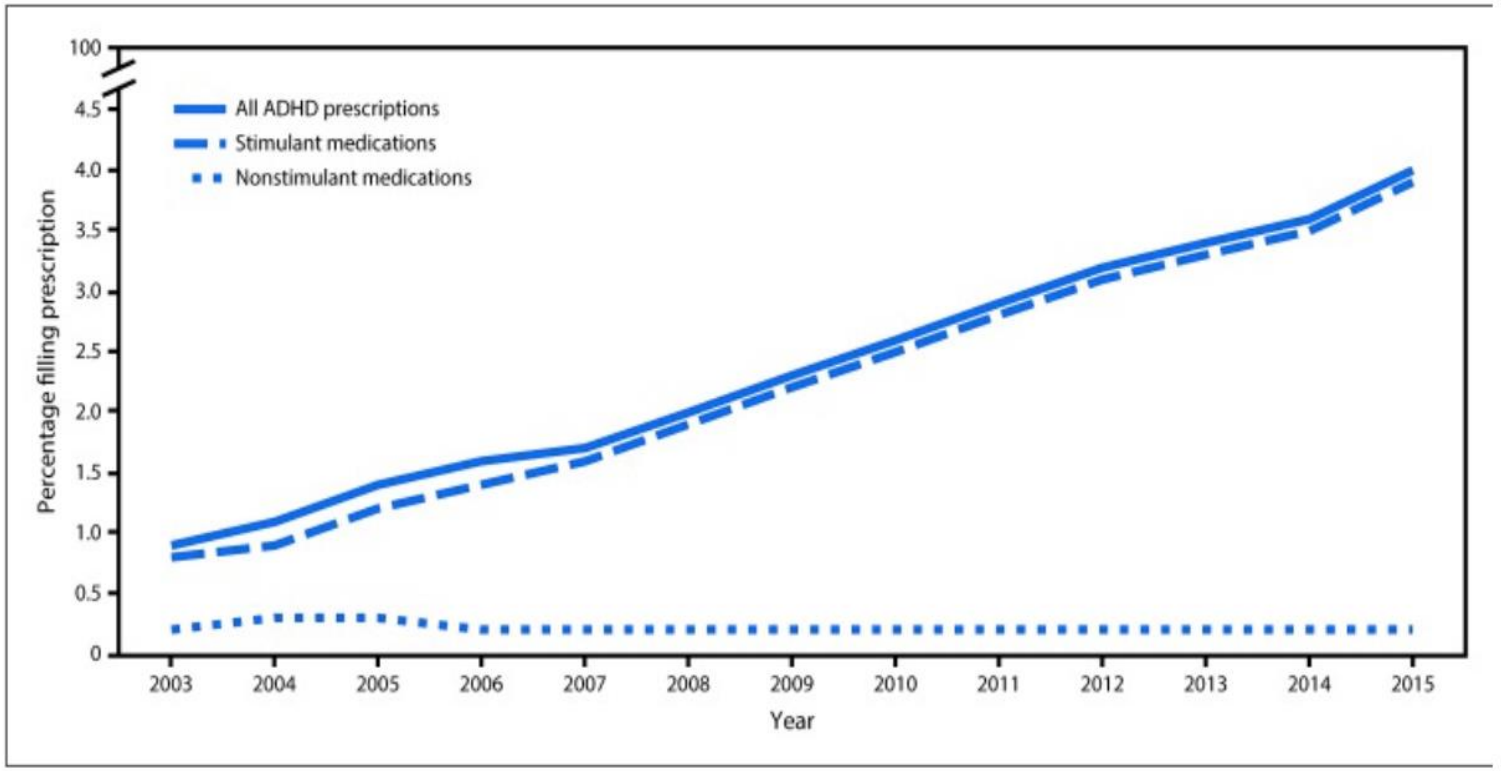
- Treatment for ADHD in adults is increasing
- The increase in prescriptions is largely being driven by stimulants



FIGURE

Percentage of women aged 15–44 years with private employer-sponsored insurance who filled one or more prescriptions for an attention-deficit/hyperactivity disorder (ADHD) medication, by medication class — United States, 2003–2015

Attention-Deficit/Hyperactivity Disorder Medication Prescription Claims Among Privately Insured Women Aged 15–44 Years — United States, 2003–2015

MMWR Morb Mortal Wkly Rep. 2018 Jan 19;67(2):66-70.

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Impact of ADHD on pregnancy outcomes

- Limited studies have shown some specific perinatal risks
- Murray et al
  - higher risk for maternal stress, comorbid depressive symptoms, and significant negative impact on social supports
  - higher rates of tobacco use and preterm birth, but this lost significance when adjusted for confounding factors[5]
- Poulton et al
  - increased risk of multiple negative outcomes including pre-eclampsia, pre-term labor/birth, higher incidence of surgical delivery, and higher need for neonatal resuscitation and higher likelihood of neonatal admission
  - although they were unable to confidently ascribe these outcomes to parental ADHD, use of psychostimulants, or other correlated factors[6]

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Untreated ADHD in adults is associated with numerous negative outcomes[1, 4, 5, 7, 8, 9, 20, 21, 22, 23]

- Elevated risk of multiple medical comorbidities, especially neurological, metabolic, musculoskeletal and respiratory illnesses
- Elevated risk of all cause mortality, especially non-natural mortality (e.g. accidental death, suicide)
- Higher rates of serious motor vehicle crashes
- Elevated rates of substance misuse
- Elevated risk of mood disorders and anxiety disorders
- Heightened impulsivity/increased risk-taking behaviors
- Elevated rates of criminal behavior/legal system involvement
- Decreased academic and vocational success, higher rates of financial stress
- Decreased social supports, higher rates of relational conflict/divorce

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Why treat during pregnancy?

Treatment of ADHD has been shown to reduce:

- rates of morbidity/mortality[7] (including decreasing risk of motor vehicle crashes[21])
- reduce substance abuse[22]
- emotional dysregulation and impulsivity[4]

Treatment of ADHD also has positive impact on[23]:

- Successful employment and improved financial resources
- Social connection and support
- Engagement in health-promoting behaviors
- Parenting

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Diagnosis

- ADHD confounders:
  - Cognitive changes related to pregnancy and postpartum
  - Depressive disorders
  - Anxiety disorders
  - PTSD

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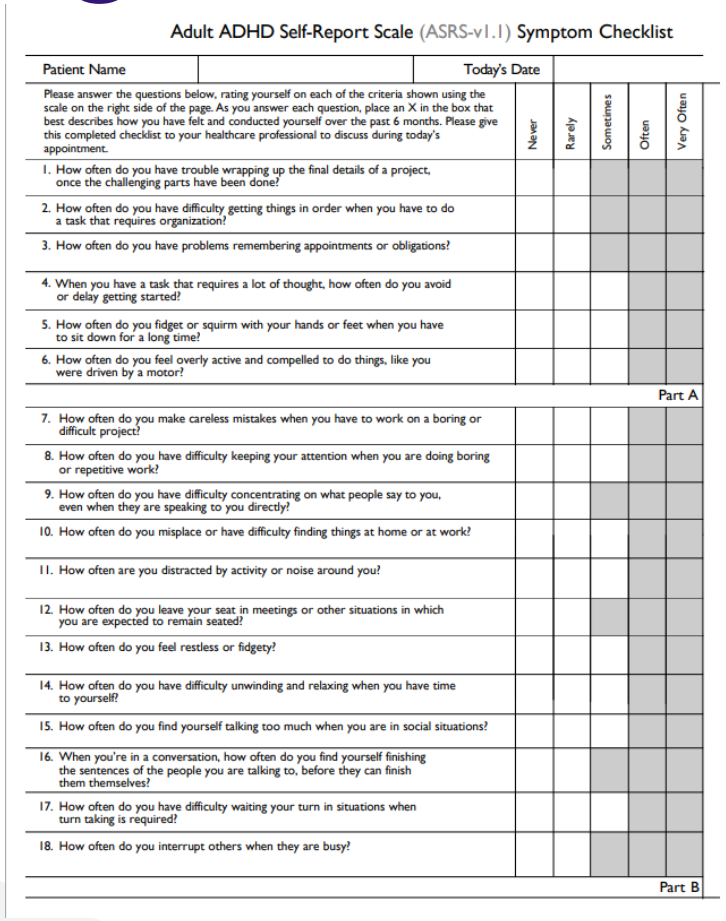
Diagnosis



Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist

Patient Name		Today's Date					
Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.			Never	Rarely	Sometimes	Often	Very Often
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?							
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?							
3. How often do you have problems remembering appointments or obligations?							
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?							
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?							
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?							
							Part A
7. How often do you make careless mistakes when you have to work on a boring or difficult project?							
8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?							
9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?							
10. How often do you misplace or have difficulty finding things at home or at work?							
11. How often are you distracted by activity or noise around you?							
12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?							
13. How often do you feel restless or fidgety?							
14. How often do you have difficulty unwinding and relaxing when you have time to yourself?							
15. How often do you find yourself talking too much when you are in social situations?							
16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?							
17. How often do you have difficulty waiting your turn in situations when turn taking is required?							
18. How often do you interrupt others when they are busy?							
							Part B

- Adult ADHD Self-Report Scale (ASRS) is a tool that screens for ADHD symptoms
- To meet DSM-5 criteria, patients need
  - At least 6 inattentive and/or hyperactive symptoms
  - For at least 6 months
  - Evidence of at least some symptoms in starting in childhood

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Assessment

- Use a structured assessment tool
  - ASRS can be a helpful jumping off point, but is not a diagnostic tool
- Important elements:
  - Assess for childhood symptoms
  - Family history
  - Current level of functioning
  - Severity
    - Work
    - Relationships
    - Driving

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Non-pharmacological interventions

Psychoeducation	CBT	Neurofeedback
Peer support	Coaching	Environmental modifications (e.g. prioritizing public transport over driving, accommodations in school/work, etc.)

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Risks associated with pharmacological treatment of ADHD in pregnancy: Stimulants

- The most convincing data of adverse effects from stimulant exposure exists from studies of pregnant individuals abusing psychostimulants (in particular methamphetamine)
  - See higher rates of fetal demise, hypertensive disorders, in utero growth restriction, preterm birth, postpartum hemorrhage in this group
- Cannot automatically extrapolate these risks to therapeutic use

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Risks associated with pharmacological treatment of ADHD in pregnancy: Stimulants

Increased risk of birth defects

- Possible small increase in cardiac malformations with methylphenidate
- No known risk with amphetamine exposure[10]
- Other studies have found no association between stimulant exposure and birth defects[11]

In utero growth effects

- Some evidence of growth acceleration and being large for gestational age[11]
- However, other studies have shown growth restriction[13]

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Risks associated with pharmacological treatment of ADHD in pregnancy: Stimulants

- Hypertensive disorders[6, 12, 14]
  - Data are conflicted on risk of pre-eclampsia with therapeutic stimulant exposure
- Increased risk of preterm birth[11, 14]
- Increased rates of neonatal morbidity
  - More likely to require NICU care, and more likely to experience CNS disorders (e.g. seizures)[11]
  - More likely to require caesarian delivery, have low APGAR scores, require NICU care[6]
  - No study has found stimulant associated increase in neonatal death

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Risks associated with pharmacological treatment of ADHD in pregnancy: Bupropion

- Increased risk of birth defects?
  - Early studies said maybe, but more recent data are reassuring[15, 16]
- Few other reported negative pregnancy outcomes
- Low risk for postnatal adaptation
- Less effective than stimulants, but may be a reasonable option for patients with comorbid depression and/or nicotine use disorder

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Risks of Medications in Pregnancy: Atomoxetine

- Limited data available
- No evidence of increased risk of birth defects[17, 18]
- No evidence of increased risk of pre-eclampsia or preterm birth[14]
- No evidence of increased risk of long-term developmental problems including growth problems or autism[18]

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Risks associated with pharmacological treatment of ADHD in pregnancy: α2 agonists

- Very little published data and what is known is confounded – most studies are from patients being treated for severe hypertension, which can have significant effects on pregnancy outcomes
- Clonidine was not associated with impairments in development or growth[18]
- Guanfacine was similarly not associated with development or growth impairments after exposure during pregnancy[19]

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Summary of ADHD Management during pregnancy

1. Do your best to ensure diagnostic accuracy
2. Assess the severity of ADHD and the risks of untreated illness for the individual patient
3. Consider medical comorbidities
4. Consider possible non-pharmacological interventions
5. Consider the known perinatal risk/safety profile of medications

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