Medication Use, Misuse and Abuse During Pregnancy

California Association for Nurse Practitioners
March 23, 2013

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Content Outline

- Prevalence of medication use, misuse & abuse in the pregnant population
- Approaches to screening for substance abuse for obstetric and gynecologic patients
  - Review of SBIRT model/process & screening tools
  - Value of urine drug testing
  - Interview approaches
- Case studies
- Approaches to clinical documentation & referral
- Summary/Q&A
Objectives

- Describe the increase in prenatal medication use, misuse and abuse
- Identify 3 screening tools for medication use, misuse & abuse for OB and GYN patients
- Describe and discuss the clinical value of medication monitoring, including risk management benefits and treatment strategies
- State the value of clinical documentation and referral for your patient and your practice
Neonatal abstinence syndrome (NAS) nearly *tripled* in the past decade.

Newborns diagnosed with NAS are more likely to have trouble breathing, low birth weight, feeding difficulties and seizures.

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2009</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborns with neonatal abstinence syndrome</td>
<td>4,682</td>
<td>13,539</td>
<td>289%</td>
</tr>
<tr>
<td>Pregnant women dependent on or using opiates when they delivered</td>
<td>4,839</td>
<td>23,009</td>
<td>475%</td>
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</tbody>
</table>

“Neonatologists say it is unclear what percentage of neonatal abstinence syndrome cases are due to mothers appropriately taking opioids that were prescribed to them and how many cases are caused by mothers using the drugs illicitly.”.

“…encourages doctors to consider giving a urine toxicology screen to all pregnant women to identify and who are abusing opioids…. The urine toxicology screen is effective in identifying substance abuse and old we will help ensure the health of the unborn child.”

Medication Use Defined

Use
Misuse
Abuse
Addiction
Prescription Medication Use:
At Any Time During The First Trimester & Pregnancy

45% Increase in Pregnancy

25% Increase in Pregnancy

According to 2010 National Survey on Drug Use & Health of Pregnant Women:

- 10.8% reported current alcohol use
- 3.7% reported binge drinking
- 1% reported heavy drinking
- 16.3% reported smoking cigarettes
- 4.4% reported recent use of illicit drugs including nonmedical use of prescription drugs

Substance Abuse and Mental Health Services Administration, *Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings*, 2011.
Illicit Drug Use & Cigarette Use During Pregnancy
By Age Group, 2009-2010

Substance Abuse and Mental Health Services Administration, Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings, 2011.
Self Reporting of Medications by Pregnant Women:

*Antidepressants*

Electronic medical record (EMR) versus self-report N=404

~50% failed to report antidepressants

~25% Did not report SSRIs

~50% Did not report non-SSRIs

Socio-demographic characteristics were not predictive

Self-Reporting by Pregnant Patients: 

Prescribed Opioids

~50 % Prescribed opioids failed to report taking

Opioids= Lowest reliability of self-report

Moderate reliable for antibiotics, GI agents and migraine Medications

Most reliable for antidiabetic, thyroid and asthma medications

Physicians have an ethical obligation to learn and use techniques for universal screening questions, brief intervention, and referral to treatment in order to provide patients and their families with medical care that is state-of-the-art, comprehensive, and effective.

- American College of Obstetrics & Gynecology (ACOG) Committee Opinion #422
- At Risk Drinking & Illicit Drug Use: Ethical Issues in Obstetric & Gynecologic Practice 2008
OB-GYNs have important opportunities for substance abuse intervention through:

- Safe prescribing practices
- Encouragement of healthy behaviors via information & education
- Identifying & referring patients abusing drugs to addiction treatment
### Recommendations for Screening

<table>
<thead>
<tr>
<th>American College of Obstetrics &amp; Gynecology (ACOG)¹</th>
<th>American Society of Addiction Medicine (ASAM)</th>
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</thead>
<tbody>
<tr>
<td>Recommends SBIRT</td>
<td>Early Intervention Using SBIRT² model</td>
</tr>
<tr>
<td>All pregnant women</td>
<td>Screening</td>
</tr>
<tr>
<td>Ask about smoking, alcohol &amp; drug use</td>
<td>Brief Intervention</td>
</tr>
<tr>
<td>Include questions on partner’s use</td>
<td>Referral to Treatment</td>
</tr>
</tbody>
</table>

Several states have published guidelines

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(2) Screening, Brief Intervention and Referral to Treatment (SBIRT) in Behavioral Healthcare. SAMHSA White Paper. April 2011.
SBIRT Process

Screening

- All Patients
  - Preferably pre-conception & at each prenatal visit

Brief Intervention

- Moderate Risk
  - Educate & motivate to abstain

Brief Treatment

- Moderate – High Risk
  - Assessment, education, problem solving, coping mechanisms & build supportive environment

Referral to Treatment

- High Risk
  - Severe abuse or dependence, relapse. Refer to specialist.

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1  American College of Obstetricians and Gynecologists (ACOG) Committee Opinion Number 422: December 2008-At-Risk Drinking and Illicit Drug use: Ethical issues in Obstetric and Gynecologic Practice.
3  West Virginia Perinatal Partnership 2008 Committee on Drug Use During Pregnancy Sub Committee on Medical Guidelines Report and Recommendations. Last revised November 2010.
Benefits of Universal Screening

- Eliminates provider bias
- Improves provider skills & comfort
- Opportunity for education regarding risks of substance use to mother & baby
- Identification of substance use, misuse & abuse, allowing for early intervention &/or referral (including prescribed medications)
- Enhances awareness & may prevent future substance misuse/abuse

Screening Tools

4Ps1 or 4s Plus

West Virginia Prenatal Risk Screening Instrument

Online or Professional Association Resources


* Tool courtesy of Michael S. Parr, MD
# Medication Monitoring

## Urine Drug Testing (UDT)

<table>
<thead>
<tr>
<th>Clinical Value</th>
<th>Risk Management Value</th>
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<tbody>
<tr>
<td>Detect presence of:</td>
<td>Proactively assess for medication use, misuse, abuse</td>
</tr>
<tr>
<td>Prescribed medications</td>
<td></td>
</tr>
<tr>
<td>Non-prescribed medications</td>
<td>Education regarding risk for mother &amp; baby</td>
</tr>
<tr>
<td>Illicit substances</td>
<td>Potentially identify need for withdrawal treatment</td>
</tr>
<tr>
<td>Enhance provider-patient communications</td>
<td>Referrals as needed to addiction treatment</td>
</tr>
<tr>
<td>Prevent negative outcomes</td>
<td>Clinical documentation</td>
</tr>
</tbody>
</table>
What You Should Know About Urine Drug Testing (UDT)
Three Types of Urine Drug Tests

- Immunoassay ("in-office quick check")
- Gas chromatography-mass spectrometry (GC/MS)
- Liquid chromatography tandem mass spectrometry (LC-MS/MS)
Comparison Between Types of Urine Test

**In Office**
- Rapid Results
- Low sensitivity and specificity
- May assist in treatment considerations/day of service
- Detects presence or absence of many medication classes

**LC-MS/MS**
- Provides accurate medication use including metabolites
- High sensitivity, selectivity and specificity
- 1-2 day turn around/1-2 ML of urine
Talking to Pregnant Women about Urine Drug Testing

- Universal screening prevents the need to “profile” patients
- Many providers and staff will feel awkward discussing this at first...

“As a part of your comprehensive testing I want to screen for medications and drugs that may be harmful to you and your baby in pregnancy.”
WHAT ARE ‘UNEXPECTED UDT RESULTS’?

- Prescribed medications not present on UDT
- Non-Reported Prescription Medication
- Illicit Substances
Responding to Unexpected Results:

- Review results with patient
- Consider medical & psychosocial issues
- State concern for health of mother & baby
- Educate on consequences of specific substances
- State willingness to work together

“Help me understand these results.”

West Virginia Perinatal Partnership 2008 Committee on Drug Use During Pregnancy Sub Committee on Medical Guidelines Report and Recommendations. Last revised November 2010.
Early Intervention
Armstrong et al 2003 – Adjusted Odds Ratios for Neonatal Outcomes

- N = 6,774
- Prenatal substance abuse questionnaire
- Urine toxicology conducted

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<thead>
<tr>
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<th>Control</th>
<th>S</th>
<th>SA</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assisted Ventilation</td>
<td>1</td>
<td>2.0</td>
<td>3.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>1</td>
<td>2</td>
<td>2.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Pre-term delivery</td>
<td>1</td>
<td>2.1</td>
<td>1.6</td>
<td>1.3</td>
</tr>
</tbody>
</table>

SAT outcomes were similar to Control outcomes

Early Intervention
Goler et al 2008

- Goler et al replicated study with 49,985 women
- Incorporated prenatal questionnaire and UDT

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<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assisted Ventilation</td>
<td>0.8</td>
<td>2.2</td>
<td>1.4</td>
<td>1</td>
</tr>
<tr>
<td>Low Birth Weight</td>
<td>0.7</td>
<td>1.8</td>
<td>1.2</td>
<td>1</td>
</tr>
<tr>
<td>Pre-Term Delivery</td>
<td>0.8</td>
<td>2.1</td>
<td>1.2</td>
<td>1</td>
</tr>
<tr>
<td>Placental Abruption</td>
<td>1.1</td>
<td>6.8</td>
<td>1.3</td>
<td>1</td>
</tr>
<tr>
<td>Intrauterine Fetal Demise</td>
<td>1.5</td>
<td>16.2</td>
<td>2.0</td>
<td>1</td>
</tr>
</tbody>
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Early Intervention significantly reduced odds of negative outcomes in newborns

Early Intervention Results

Universal UDT & Patient Questionnaire

Early Intervention for substance abuse treatment

Decreased incidence of:
- Low birth weight
- Preterm labor & delivery
- Placental abruption
- Neonatal assisted ventilation
- Intrauterine fetal demise

IMPROVED INFANT OUTCOMES

Kaiser Permanente Data/ 56, 759 Women

Initial screening and UDT

ID substance abuse and treat early

Best Maternal and Fetal Outcomes


Summary of Kaiser Data
Early Intervention Results

- Low birth weight
- Preterm labor and delivery
- Placental abruption
- Neonatal assisted ventilation
- Intrauterine fetal demise

= Improved Infant Outcomes
# Common Substances & Their Potential Negative Effects

<table>
<thead>
<tr>
<th>Substance</th>
<th>Potential Negative Effects</th>
</tr>
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<tbody>
<tr>
<td>NICOTINE</td>
<td>Preterm birth, respiratory problems and low birth weight</td>
</tr>
<tr>
<td>ALCOHOL</td>
<td>Fetal alcohol syndrome, central nervous system abnormalities and growth defects</td>
</tr>
<tr>
<td>OPIOIDS</td>
<td>Hypoplastic left heart syndrome and fetal alcohol syndrome; long-term effects not well understood</td>
</tr>
<tr>
<td>SSRIs</td>
<td>Cardiac abnormalities and pulmonary hypertension</td>
</tr>
<tr>
<td>TCAs</td>
<td>Damage to central nervous system, physical deformities or developmental delays</td>
</tr>
<tr>
<td>BENZODIAZEPINES</td>
<td>Low birth weight, breathing difficulties and withdrawal syndrome</td>
</tr>
<tr>
<td>MARIJUANA</td>
<td>Neurobehavioral effects</td>
</tr>
<tr>
<td>HEROIN</td>
<td>Antepartum and postpartum hemorrhage; increased perinatal mortality rate</td>
</tr>
<tr>
<td>COCAINE</td>
<td>Antenatal complications and congenital anomalies</td>
</tr>
<tr>
<td>AMPHETAMINES</td>
<td>Maternal hypertension, fetal demise and congenital anomalies</td>
</tr>
</tbody>
</table>
Case Study “Serena”

- 37 Year old, G2P0, 1 TAB
- Married, works as a legislative assistant
- PMH- asthma, HTN
- 7 week IUP confirmed by US
- Office urine test negative
- Confirmation labs **Positive** for lorazepam
Why was her office urine test negative for lorazepam?

How would you talk to Serena about non-reported lorazepam?
Serena Returns to Your Office

- She forgot to mention her lorazepam use because she uses it PRN for sleep
- She is counseled to stop medication while pregnant
- Delivers healthy baby girl at 41 weeks
Case Study “Heather”

- 27 year old G4P1, 1MAB, 1TAB
- Single, lives with FOB x 2 years
- Works in retail full time
- History of MVA at 17 years old with fractured femur and radius
- Using BCM at time of conception, 8 weeks based on LMP, 11 week IUP on US
Point-of-care immunoassay is *negative* on first prenatal visit

Confirmation quantitative testing is *positive for buprenorphine*

The patient is asked to return to discuss unexpected lab results one week later
Heather Returns to Your Office

- She tells you post MVA she was treated for chronic pain with several opioid medications
- She reports she frequently misused her medication and her pain continued
- She was referred to a pain/addiction specialist who started her on buprenorphine for pain
- She has been stable on this medication for 5 years and continues to see her specialist
Heather is co-managed with her OB/GYN and addiction/pain specialist.

She is counseled about the risks of opioid use in pregnancy and agrees to a slow taper down at 34 weeks in anticipation of delivery.

Delivers a healthy 6 lb., 13 oz. boy, NSVD, at 39 weeks- newborn was observed for NAS x 72 hours, then discharged.
Pregnancy and the ‘Unexpected’ Laboratory Result

- Provides an opportunity for discussion and patient/provider relationship building
- Early ID may help *reduce* harm to baby
Important Clinical Documentation

- Patient Behaviors
  - Physical signs of substance abuse
  - Conversations relevant to past or present substance abuse, medication misuse and abuse

- Laboratory results; both expected and unexpected
  - Urine Drug Testing Results

- Substance or medication abstinence
  - Referral to specialist when needed
  - Potential harm to self and baby

- Document plan of care
  - List specific goals
  - Document co-management or consultation with specialist
Know the Specialist in Your Area

- Pain Physicians
- Maternal-Fetal Specialist
- Neonatologist
- Addiction Specialist
- Psychiatrist/Psychologist
Community Resources

KEEP THIS LIST CLOSE AT HAND FOR QUICK AND EASY REFERENCE

- Substance Abuse and Mental Health Services Administration (SAMHSA) [www.samhsa.gov](http://www.samhsa.gov)
- Public and private treatment centers
- Twelve step programs
- Mental health programs
- Pregnancy support groups
REDUCE HARM

- Encourage Substance Diary
- Avoid trigger environments
- Explore alternative substitutes for substances
- Evaluate and refer as needed
- Assess need for CPS
- Safer route

REduce HARM

Reduces harm through various strategies.
Homework?
Summary

- There is a significant increase in prenatal medication use, misuse and abuse.
- Patients often under report or fail to report medications that can effect the health of the pregnancy and baby.
- NAS has *nearly tripled* in the last decade (289%)\(^1,2\)
- Opiate dependence or use at delivery has *increased 475%*. \(^1,2\)

Summary (continued)

- Careful clinical documentation provides proof of provider-patient interaction
- Co-management with specialist provides a high-standard of *continuous* care
- Assessment tools (questionnaires) help to identify risk
- Urine drug testing is an important tool to help identify medication use, misuse and abuse and the use of illicit substances in pregnancy
Questions?

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