Licit and Illicit Drug Use in Pregnancy

And Its Effect on Mother and Baby

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Objectives

- To Understand:
- Screening tools for drug use
- General principles with prenatal care of the substance user
- Pregnancy complications associated with selected drugs.

Providers:

- Obstetric provider is in a key position for screening, early diagnosis, counseling, initiating treatment of pregnant women who use illicit drugs
- Offer factual, nonjudgmental information regarding risks and options for cessation

Users:

- Users may not seek prenatal care- fear, guilt, shame, concern regarding legal intervention, opioid users may interpret early pregnancy symptoms as withdrawal symptoms- nausea, vomiting, cramping
- 86% of pregnancies in opioid using women reported as unintended
- Mean rate of pregnancy related abstinence 57%-many resume after giving birth

Definitions

- Use–sporadic consumption of alcohol or drugs with no apparent adverse consequences
- Abuse–consumption of alcohol or drugs with some adverse consequences
- Physical dependence–abrupt cessation or rapid dose reduction or antagonist cause withdrawal symptoms
- Psychological dependence–subjective sense of need for substance
- Addiction–primary chronic disease of brain reward, motivation, memory, and related circuitry. Dysfunction in the circuits leads to substance use for reward and/or relief of symptoms. Characterized by inability to consistently abstain, impaired behavioral control, craving, diminished recognition of problem behaviors, and dysfunctional emotional response. May involve cycles of relapse and remission

Drug use in the United States

- Illicit drugs–marijuana/hashish, cocaine, heroin, hallucinogens, inhalants, prescription psychotherapeutic used non-medically
- National survey in 2015–67,500 participants–marijuana most common followed by psychotherapeutics–pain relievers most common, cocaine, hallucinogens
- Survey in 2013–5.4% of pregnant women used illicit substances in the past month, 15.4% smoke cigarettes, 9.4% drank alcohol
- 15-17 years–14.6%, 18-25 years–8.6%, 26-44 years–3.2%
- California healthcare system–4% marijuana use in 2009, 7% in 2016 (greatest increase age 12-17 years, 12.5-21.8%)
- Neonatal abstinence syndrome increasing–some units as high as 20% of NICU days attributed to care for neonatal abstinence syndrome

Screening for drug use

- Should be screened at initial prenatal visit and each trimester
- **4P's Plus Screen**–ask About substance use in the patient, parents, partner (copyrighted)
- **CRAFFT** Substance Abuse Screen for Adolescents and Young Adults–Have you driven or ridden in a **car** driven by someone under the influence, alcohol or drugs to **relax**, use while **alone**, **forget** things that happened while using alcohol or drugs, do **family** or **friends** tell you to cut down, ever in **trouble** while using alcohol or drugs
- **NIDA Quick Screen**–alcohol 4 or more drinks a day, tobacco products, prescription drugs for nonmedical reasons, illegal drugs since pregnant (never, once or twice, monthly, weekly, daily or almost daily)
- **TAPS**–tobacco, alcohol, prescription medications, substance use/misuse
- **SURP-P, Wayne Indirect Drug Use Screener (WIDUS)**-studies are ongoing

Assessment of a screen positive patient Respectful, sensitive, and neutral words

- Start by asking about cigarettes and alcohol followed by over-the-counter drugs, then prescriptions then illegal substances
- Ask about frequency, length of most recent pattern abuse, time of last use. Where, when, with whom.
- Route of administration–oral, intranasal, subcutaneous, intravenous. If needles used ask about shared needles
- Ask about quantity, money spent may be helpful to quantify–likely not accurate ask about self-help programs, prior treatment and abstinence periods

Risk factors for substance use

- Younger woman (esp adolescents), unmarried, lower education
- Late care
- Multiple missed visits
- Impaired schoolwork performance
- Sudden change in behavior
- High risk sexual behavior
- Relational problems, unstable home environment
- Obstetrical history of unexplained adverse events–SAB, IUGR, prematurity, abruption, stillbirth, precipitous delivery

Risk factors for substance use - continued

- Children are not living with mother or involvement with child protection agencies
- Medical problems associated with drug abuse, physical signs of drug use, physical signs of withdrawal
- Poor dentition
- Poor weight gain
- Mental health disorder
- Family history of substance abuse
- Encounters with law enforcement
- Partner is a substance abuser

Laboratory testing

- Universal testing is not recommended
- No consensus regarding when tests should be used and best method–urine testing most common
- Previous positive drug test
- Monitoring compliance with methadone or buprenorphine use
- Abruptio placenta
- Idiopathic preterm labor
- Idiopathic fetal growth restriction
- Frequent requests for prescription drugs of abuse
- Noncompliance with prenatal care
- Unexplained fetal demise
- Medically indicated drug testing without consent if unconscious or obvious intoxication, otherwise obtain consent–laws vary by state

General principles of prenatal care of the substance user (Mostly Observational Studies)

- Use safe prescribing practices
- Education regarding risks
- Be aware of local resources
- Opiate dependence/switched to methadone or buprenorphine
- High doses of benzodiazepines–medical detoxification to minimize withdrawal
- Rehabilitation for cocaine
- Identify comorbid condition–psychiatric disorders, physical/sexual/emotional abuse

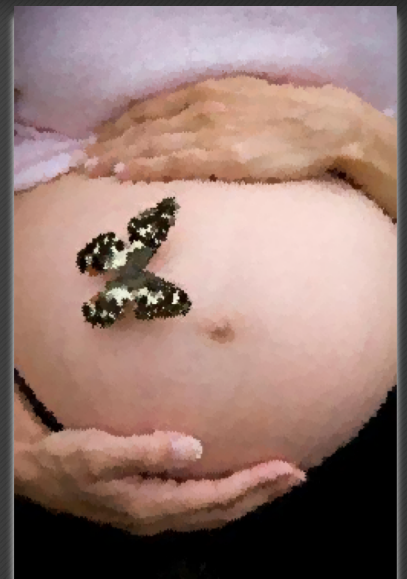
General principles of prenatal care of the substance user - continued

- Multidisciplinary team–obstetrical, medical, pediatric, psychiatric, addiction medicine, social service
- Education about nutrition and weight gain
- Test for STDs–syphilis, gonorrhea, Chlamydia, hepatitis B and C, HIV, tuberculosis–repeat in third trimester
- During prenatal visits–provide education and support, monitor maternal and fetal status, assess for complications related to addiction
- Early ultrasound for accurate dating
- Assessment for IUGR in second half of pregnancy

General principles of prenatal care of the substance user - continued

- Antepartum fetal surveillance for IUGR, bleeding, preeclampsia, maternal withdrawal–substance abuse alone is not a clear indication for antenatal testing
- Consult anesthesia for pain management plan
- Inform pediatrics
- Okay to breast feed with methadone or buprenorphine
- Caution with other drugs of abuse, avoid with amphetamines

Pregnancy complications–effects difficult to ascertain because data are scarce and confounded by the influence of other factors-Polysubstance Use, Poor Nutrition, Poverty, Co-morbid Disorders, Inadequate Prenatal Care



Opioids

- Abruptio placentae, fetal death, intra-amniotic infection, fetal growth restriction, fetal passage of meconium, preeclampsia, premature labor and delivery, preterm premature rupture of the membranes, placental insufficiency, SAB, postpartum hemorrhage, septic thrombophlebitis.
- Possible increased risk of maternal cardiac events
- Neonatal abstinence syndrome
- Opioid substitution therapy–preferable to medication assisted withdrawal (detoxification)–lower rate of resumption

Marijuana

- Limited data–possible neurodevelopmental impact
- Most common illicit substance use during pregnancy up to 19% of women believe regular marijuana use is of no increased risk during pregnancy (2015)–50% of women using marijuana will continue while pregnant, approximately 7.5% of 18-25-year-olds in a national survey, fetal levels approximately 10% of maternal levels after acute exposure to THC
- Contemporary marijuana products have higher quantities of THC
- Data limited by small study size and confounding factors (other substance and tobacco use)
- Metaanalysis of 31 studies indicated no obvious increased risk for low birth weight or preterm delivery–limited by small numbers
- Stillbirth Collaborative Research Network data set–threefold increased risk of composite neonatal morbidity or death
- ACOG and Acadamy of Breastfeeding Medicine discourage Marijuana use during breastfeeding

Cocaine

- Female users in their 30s constitute the fastest growing group of new users who do not use other substances
- Cocaine readily crosses the placenta and fetal blood brain barrier causing vasoconstriction
- Meta-analysis of 31 studies-preterm birth(OR 3.38), low birthweight9OR 3.66), small for gestational age(OR 3.23), shorter gestational age at delivery by 1-1/2 weeks, reduced birthweight (-492g)
- Possible increased risk of miscarriage, abruptio placentae, decreased length, decreased head circumference at birth; no obvious teratogenic effects
- Cardiovascular cocaine toxicity increased in pregnant women–causing hypertension (mimics preeclampsia), avoid beta blockers (including labetalol) which can create alpha-adrenergic stimulation and coronary vasoconstriction, end organ ischemia–hydralazine preferred
- Analgesia and anesthesia should be individualized-higher risks

Amphetamines and methamphetamine

- Becoming more common among women of reproductive age
- Common names-speed, meth, chalk, or ice, crystal and glass when smoked
- Powerfully addictive, neurotoxic agent damaging endings of brain cells containing dopamine
- Crosses placenta
- No obvious fetal structural abnormalities–two to fourfold increased risk of IUGR, gestational hypertension, preeclampsia, abruption, preterm birth, IUFD, neonatal death, infant dea[illegible]

Summary and recommendations

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- Identification and treatment can decrease maternal drug use during pregnancy
- All women should be screened for drug use during pregnancy
- Ask specific questions using a screening tool–may not admit use because of guilt, fear of legal consequences, including loss of custody of children
- Risk factors–late prenatal care, multiple missed prenatal visits, past adverse obstetrical history, children with neurodevelopmental or behavioral problems, children are not living with mother, history of drug or alcohol mediated medical problems, substance abuse in partner or family member, frequent encounters with law enforcement
- Universal laboratory testing not recommended

Summary and Recommendations - continued

- Indications for testing–previous positive drug test, monitoring compliance with methadone or buprenorphine, unexplained abruptio placenta, fetal demise
- Few randomized trials have evaluated optimal approach
- Observational studies suggest combining treatment of substance abuse with comprehensive prenatal care. Components of care should be individualized
- Opiate substitution preferred to detoxification or no treatment, methadone or buprenorphine-neither is clearly superior
- Cocaine can cause vasoconstriction in uterine vessels bleeding due to abruptio placentae, spontaneous abortion, prematurity, fetal death
- No high-quality evidence showing adverse effect of marijuana on pregnancy outcome, marijuana use discouraged during pregnancy and lactation
- Definitive information regarding impact of methamphetamine in utero not available

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What Long Term Effects Will Your
Drug and Alcohol MisUse Have on ME?

The End!