Medication-Assisted Treatment & Pregnancy

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Central Florida Treatment Centers
Addiction is a Biopsychosocial Disease

Has an onset, progression, prognosis, and predictable outcome like any other disease

There are genetic components, environmental components, psychological components, social, family, job, and moral components

Addiction impacts each and every part of the life of the addict and anyone who cares about them
Substance Abuse treatment in a nutshell, should offer the path by which a patient can make positive, recovery changes in each area of their life to become healthier and more stable members of their home, community and society.
What should a Substance Abuse Treatment Center offer?

- **Counseling** in individual and/or group formats
- **Education** on addiction, mental, physical, emotional, and spiritual aspects
- **Referral** for medical, vocational, or psychiatric issues beyond their scope
- **Drug screening**
- **Consultation**: Tx centers in the community should be working with you on transitioning patients in and out and on follow-up. Should be consultative on helping you work with patients
Yes, they offer medication as an addition to the treatment services above, not in lieu of.

Addictions with a physiological component may need more than counselling and support.

What does MAT for opioid dependency do?
In USA, methadone maintenance has been recommended for opioid dependent pregnant women since the early 1970’s

1997 NIH Consensus Panel recommended as standard of care for opioid dependency treatment

Buprenorphine has been used in Europe since the mid 1990’s. In the USA, it is not yet formally approved for use with pregnant patients but it’s use in the USA is increasing
At a therapeutic dose, MAT will:

- Prevents the onset of withdrawal for at least 24 hours
- Reduces or eliminates drug craving
- Blocks the euphoric effects of other narcotics

Kaltenbach et al., Obstetrics and Gynecology Clinics of North America, 1998

Indirect Effects

- Decreases risks to fetus of infection from HIV, Hepatitis & Sexually transmitted disease
- Reduces the incidence of obstetrical and fetal complications

NCSACW Webinar Series August 2011

Not a cure, does not make you lucky, happy, wealthy or skinny…
So…what do we do with those who have Substance Use Disorders?

- It is well established that treatment is hugely cost-effective when compared with the cost of medical, mental health, automotive, work related, family damage, and damage to society that unchecked SUD causes.

  So, YES, we deal with SUD issues.

- WHY? It is healthier, cost-effective, produces results (the impact of just one person going from active addiction to recovery is huge), improves our communities, and makes us safer…and it is the right thing to do.
AND...what about our pregnant patients?
Methadone Issues of Dose

- Dose should be based on the same criteria used for non-pregnant patients
- Prevent the onset of withdrawal for 24 hours
- Reduce or eliminate drug craving
- Block the euphoric effects of other Narcotics

*Optimal dose is therapeutic dose.*

- Original work by Dole and Nyswander suggests that effective dose is usually in the range of 80-120mg
- Current data indicate that most patients are maintained on doses between 100-200mg.
- However, others may require significantly higher doses
- Third trimester may present dosing issues
Neonatal Outcomes on Women Who Conceive & Maintain on Methadone

John McCarthy, M.D.
Executive/Medical Director
Bi-Valley Medical Clinic
Sacramento, California
Presented at the AATOD Conference in New York
“You need to get off that stuff to protect your baby”

- Women are often given inaccurate and conflicting advice and information relative to the effect of methadone on the fetus.
- They are often told that methadone will harm the baby and given advice to taper off methadone to ‘protect the baby’.
- This misinformation often extends to issues around breastfeeding.
Angel’s Story

URL: http://.atwatchdog.org/stories/stories_mybabysstory.html

- Angel conceives on 90mg while tapering.

- She’s unaware she’s pregnant until she’s at 76mg. Then she asks her counselor about whether tapering is safe and is told, ‘without hesitation’, “it wouldn’t harm the baby”.

- Her OB tells her ‘how awful it would be for the baby to be born on methadone’ and advises 5-10mg week taper.

- Angel pursues 5mg week taper with no apparent problems, but her baby “kicked all of the time”.

- At about 47mg she finds her own information on the risks of withdrawal, including fetal death.
She tells her counselor who informs the clinic doctor (for the first time) who confirms the risks and advises that the baby is probably in active withdrawal because of the rapid taper.

She goes back to the OB who is ‘enraged’ at the clinic for telling her tapering was unsafe and writes a prescription to the clinic for 5-10mg/wk taper.

Angel tapers from 47mg to 7mg in 4 weeks.

At 7mg she is physically shaking from withdrawal and the baby’s movements “became very frantic”

The OB suggests an increase to 11mg.

She finds the AT Forum website & CSAT’s TIP 2 (now TIP 43).

She requests a dose increase but the clinic doctor is reluctant to do this without the OB approval.

She is finally approval to increase to 40mg and finishes the pregnancy in mild chronic withdrawal. At birth her baby is treated for NAS.
So...what do we know?

- Conception in an opiate dependent state (street or prescribed opiates) causes fetal dependence and physiologic withdrawal is an unavoidable risk.

- In the very earliest stages of pregnancy the risks are related more to uterine spasm and miscarriage, but at some point fetal physiologic dependence occurs.

- Some degree of withdrawal will occur either in utero (where we can’t see it or monitor it well) or after birth (when we can see it and monitor it well).
Neonatal Abstinence Syndrome (NAS) vs. Intrauterine Abstinence Syndrome (IAS)

- NAS consists of neurologic, metabolic, and gastrointestinal signs following abrupt cessation of opiates at birth.
- IAS are symptoms of opiate withdrawal during gestation, a difficult to assess and poorly understood state characterized by fetal motor and adrenergic hyperactivity.
- NAS is treatable and has been studied, short and long term. IAS is treatable by raising the maternal dose. Studies of IAS are very limited. So best to maintain the mother in comfort and treat the NAS if and when it presents.
What are the Risks of Prolonged Methadone Exposure During Gestation, e.g. from Conception?

- Does the duration, the timing, or the total amount of methadone exposure pose risks of more severe NAS or other complications?

- Kemplova and Okruhlica (2000) compared 10 babies conceived/on methadone to population controls and found no differences in Birth Weight, or Gestational Age.
Perinatal risk factors for the neonatal abstinence syndrome in infants born to women on methadone maintenance therapy.

Liu AJ, Jones MP, Murray H, Cook CM, Nanan R.

Abstract

**BACKGROUND:**

- Neonatal abstinence syndrome (NAS) occurs in more than 50% of infants exposed to intrauterine opiates. Maternal opiate dosing has been investigated with conflicting results.

**AIMS:**

- The aims of this study were to correlate maternal methadone dose and other risk factors with the development of NAS requiring pharmacological treatment by using easily accessible clinical parameters.

**METHODS:**

- Retrospective medical record review of data from 228 opioid dependent pregnant women who delivered 232 live-born infants. Logistic regression analysis was performed on maternal, perinatal and neonatal parameters to identify risk factors for NAS requiring treatment. A prediction model was developed and validated on a separate independent cohort of 188 infants.

**RESULTS:**

- Of the 232 infants, 172 (74%) infants were treated for NAS. The risk of withdrawal increased by 17% per 5 mg increment of the last maternal methadone dose. The risk was lower for younger gestational ages and for those delivered by Caesarean section compared to those delivered by normal vaginal delivery. Through predictive modeling, gestational age, mode of delivery and last methadone dose were established as risk factors for withdrawal. The model was validated by other statistical measures and its diagnostic performance confirmed on the separate independent cohort.

**CONCLUSIONS:**

- Our data suggests that timing and mode of delivery as well as last maternal methadone dose are significant risk factors for the development of NAS requiring treatment. Based on these clinical parameters, risk stratification for perinatal management of pregnancies associated with opioid dependency and risk prediction for the neonate might now be possible.
Opioid dependency in pregnancy and length of stay for neonatal abstinence syndrome.

OBJECTIVE:
To examine opioid replacement therapy in pregnancy and effect on neonatal outcomes, including length of hospital stay for neonatal abstinence syndrome.

DESIGN:
Retrospective descriptive study.

SETTING:
Labor and delivery unit and neonatal intensive care unit (NICU), Eastern Maine Medical Center, Bangor, Maine.

PARTICIPANTS:
One hundred fifty-two opioid-dependent pregnant women on methadone maintenance therapy (MMT) (n = 136) or buprenorphine maintenance therapy (BMT) (n = 16) during pregnancy and their neonates. The neonates were born between January 1, 2005 and December 31, 2007.

METHODS:
A review of the electronic medical record (EMR) was conducted of all opioid-dependent women who were maintained on MMT or BMT at the time of admission for labor and delivery and their neonates.

RESULTS:
Maternal methadone dose and concomitant in-utero exposure to benzodiazepines prolonged the length of hospital stay for neonates. Length of stay was shorter in breastfed neonates than formula-fed neonates or neonates who received formula and breast milk. Neonates with prenatal exposure to MMT spent more days in the hospital (21 vs. 14 days) for treatment of neonatal abstinence syndrome (NAS) than infants with prenatal exposure to BMT.

CONCLUSION:
These findings are consistent with previous research on the simultaneous use of methadone and benzodiazepines during pregnancy and provide further direction for the treatment of opioid dependency during pregnancy. Harm reduction strategies for opioid-dependent pregnant women in substance abuse treatment with MMT may one day include guidance on daily treatment doses and recommendations to avoid the concomitant use of benzodiazepines to lessen NAS. Breastfeeding should be recommended to shorten length of stay. Understanding perinatal and neonatal outcomes of pregnant women on methadone or buprenorphine will help to identify optimal treatment for opioid dependency in pregnancy.
Statistics Gathered for CFTC Palm Bay 1/1/16-12/31/16

- 16 total births (one pregnancy carried into 2017)
- 10 of the 16 had hospital stay longer than standard (i.e. 4+ days)
- 11 of the 16 were free of Illicit Drugs
- 12 of the 17 had OB/Gyn Care

SO, WHAT WE LEARNED
<table>
<thead>
<tr>
<th>Maintenance Dosage</th>
<th>Illicit Drugs Used</th>
<th>Went home with mother or 4+ day stay</th>
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<tbody>
<tr>
<td>100 mgs</td>
<td></td>
<td>+ 4 Days hospitalized</td>
</tr>
<tr>
<td>115 mgs</td>
<td></td>
<td>+ 4 Days hospitalized</td>
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<tr>
<td><strong>50 mgs</strong></td>
<td>Illicit Drugs Used</td>
<td>+ 4 Days hospitalized</td>
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<tr>
<td>60 mgs</td>
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<td>+ 4 Days hospitalized</td>
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<tr>
<td>95 mgs</td>
<td>Illicit Drugs Used</td>
<td>+ 4 Days hospitalized</td>
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<td><strong>120 mgs</strong></td>
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<td>85 mgs</td>
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<td><strong>120 mgs</strong></td>
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<td>110 mgs</td>
<td>Illicit THC Used</td>
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</tbody>
</table>
Other Drugs of Abuse

Bear in mind that what is seen in NAS may well be more than just Opioids prescribed or illicit

Other non opioid drugs that cause behaviors consistent with withdrawal:

- Benzodiazepine
  * Cocaine
  * Alcohol
  * Methamphetamine
  * Nicotine

* Usually does not require treatment

Poly-drug exposure
Methadone-Assisted Withdrawal of Heroin-Dependent Pregnant Patients: Clinical Guidelines and Supporting Evidence

Hendrée Jones, Ph.D. Johns Hopkins University, School of Medicine, Department of Psychiatry and Behavioral Sciences

*From Conception to Postpartum: Update on Methadone During the Perinatal Period*
Occasions when Medication-Assisted Withdrawal is Necessary

- a patient refusing treatment altogether unless she is medication-free at delivery.
- inability to receive agonist maintenance in the community.
- a medical assessment of the risk vs. benefit leads to needing to discontinue a patient from methadone due to a medical contraindication.
Current Recommendations in U.S. based on clinical judgment

- Withdraw only between 15-31 weeks
  < week 14 risk of spontaneous abortion
  > 32 weeks risk of fetal stress

- Speed of taper recommended differs
  - decrease dose 2-3 mg every 7-10 days or 5 mg every two weeks
  - inpatient 2.5 mg each day or 10 mg a week

- If third trimester Medication-Assisted withdrawal is unavoidable, weekly non-stress testing is recommended to monitor fetal well-being.
Intrauterine abstinence syndrome (IAS) during buprenorphine inductions and methadone tapers: can we assure the safety of the fetus?

McCarthy JJ

Abstract

An intrauterine abstinence syndrome (IAS) is a potentially fatal consequence of maternal opiate withdrawal. This study reviews the evidence for this syndrome. Withdrawal also creates an adverse environment for the developing fetal brain that can have long-term health effects. Effective methadone treatment eliminates risks of fetal withdrawal. However, concerns about neonatal abstinence syndrome (NAS) in methadone-exposed neonates have resulted in efforts to withdraw women from methadone during pregnancy or to use buprenorphine, a mixed agonist/antagonist opiate in place of methadone. Both approaches necessarily expose the fetus to either acute or chronic withdrawal. Routine fetal monitoring is not able to detect such symptoms, unless they are life-threatening. Therefore, the safety of the fetus during buprenorphine inductions or methadone tapers cannot be assured and the fetus should be protected from such procedures. Further research into methods of diagnosing IAS and its developmental consequences is needed to assure that attempts to reduce NAS do not harm the fetus.
So, while drug free conception, pregnancy, and delivery are ideal; in a world that is not ideal: Methadone Maintenance (and maybe Buprenorphine Maintenance) is the Optimal Treatment for the opioid dependent pregnant patient

Treatment Advantages of methadone maintenance over tapering or medication-assisted withdrawal:

- prevention of relapse to illicit opioid use
- reduced fetal exposure to illicit drug use and other maternal risk behaviors
- protects fetus from repeated episodes of withdrawal
- enhanced compliance with obstetrical care
- enhanced neonatal outcomes (e.g., birth weight)
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Thank You