

Neonatal abstinence syndrome:
Breastfeeding Support
for
mothers and babies

Joanne m wesley, ba, ibclc

Objectives

1. Describe behaviors typical of infants experiencing Neonatal Abstinence Syndrome (NAS)
2. Explain reasons for supporting a mother to breastfeed her infant experiencing withdrawal or NAS
3. Identify techniques that support infants with NAS and assist their mothers with breastfeeding or providing breastmilk their infants

“Opportunities
to find deeper powers
within ourselves,
come when
life seems
most challenging.”

Joseph Campbell

History

For 18 years (from 1983 until 2001), the American Academy of Pediatrics (AAP) recommended that methadone was only compatible with breastfeeding at maternal doses ≤ 20 mg per 24 hours.

Effectively eliminated breastfeeding for the majority of US women on Methadone Maintenance Therapy

Higher doses are usually given in the third trimester to offset increase in methadone metabolism during pregnancy.

History

In 2001, AAP statement, the dose restriction for methadone was eliminated, making methadone compatible with breastfeeding.

AAP recommendation required us to reexamine policies and create new guidelines for women on methadone maintenance who choose to breastfeed,

We needed to take a fresh look at our approach to the complex issues of drug addicted mothers and NAS infants.

Addiction

- ❖ What really causes addiction?
- ❖ What makes a person more at risk for addiction?
- ❖ Why is addiction during pregnancy increasing?
- ❖ What are the best solutions to this growing issue?
- ❖ What is our role as lactation support, in this complex situation?

During pregnancy

The placenta does not act as a barrier

- ❖ Environmental contaminants
- ❖ Illicit or street drug
- ❖ Prescription drugs
- ❖ Alcohol

All cross the placenta and all affect the fetus

During pregnancy

Maternal drug use leads to complications for the fetus:

- ❖ high incidence of stillbirths
- ❖ meconium-stained amniotic fluid
- ❖ premature rupture of the membranes
- ❖ maternal hemorrhage (abruption or placenta previa)
- ❖ fetal distress

During pregnancy

Maternal withdrawal from opioid use during the pregnancy can be life threatening to the fetus.

Methadone Maintenance Treatment (MMT) or Medication Assisted Treatment (MAT) results in fewer complications for the fetus

MMT is usually effective in reducing relapse to illicit drug or legal substance misuse.

lessons

During pregnancy mother should receive counseling about:

- ❖ breastfeeding her infant
- ❖ caring for an infant with NAS

Schedule a Prenatal Breastfeeding Consult:

- ❖ understanding the important role the mother plays in her infant's recovery
- ❖ understanding of a feeding plan to meet the baby's need effectively which will likely include pumping and supplementing – so she is prepared

What is methadone maintenance?

Methadone maintenance treatment:

- ❖ is the use of methadone, a synthetic, habit forming drug substitute
- ❖ administered over a prolonged period of time (can be indefinite)
- ❖ treatment for persons addicted to opioids (such as heroin or prescription narcotics)
- ❖ used when detoxification has been unsuccessful and/or admittance to a substance abuse facility requires complete abstinence

Newborn: Addicted vs. dependence?

Choosing our words carefully:

The infant is born addicted.

or

The infant is born with a physiologic
dependence.

Neonatal Abstinence syndrome?

**Develops in
55-94% of newborns
exposed to narcotics in utero**

What causes Neonatal Abstinence syndrome?

Opioids:

- ❖ Heroin
- ❖ Methadone
- ❖ Oxycodone (Percocet Oxycontin)
- ❖ Fentanyl
- ❖ Codeine
- ❖ Morphine
- ❖ Meperidine
- ❖ Buprenorphine

Less Potent Opioids:

- ❖ Propoxyphene HCl (Darvon, Darvocet)
- ❖ Codeine
- ❖ Pentazocine (Talwin)

SSRI's:

- ❖ Paroxetine (Paxil)
- ❖ Fluoxetine (Prozac)
- ❖ Sertraline (Zoloft)

Stimulants:

- ❖ Cocaine
- ❖ Methamphetamine

CNS Depressants:

- ❖ Tranquilizers and sedatives
- ❖ Chlordiazepoxide (Librium)
- ❖ Lorazepam (Ativan)
- ❖ Diazepam (Valium)
- ❖ other benzodiazepines

What is
neonatal abstinence syndrome
or nas?

A series of withdrawal symptoms
that the infant may exhibit after birth,
due to intrauterine exposure to
street drugs or prescription narcotics.

Newborn

NAS due to methadone withdrawal does not occur immediately after birth.

The first few days of life, methadone levels in the infant are similar to in utero levels, due to the placental transfer of the drug, and then begin to slowly decline because methadone has a long half-life.

Withdrawal symptoms may not surface until 48 to 72 hours of life or later (weeks later).

Newborn

Mortality and morbidity are high:

- ❖ increased incidence of asphyxia
- ❖ prematurity
- ❖ low birth weight
- ❖ infections (including sexually transmitted infections)
- ❖ pneumonia
- ❖ congenital malformations
- ❖ cerebral infarction
- ❖ drug withdrawal
- ❖ acquired immunodeficiency disease

Newborn

Long-term sequelae for infants may include:

- ❖ long hospitalization - separation of mother and infant
- ❖ delayed bonding of mother and infant
- ❖ delays in physical growth
- ❖ mental development
- ❖ sudden infant death syndrome
- ❖ learning disabilities

Signs of NAS

- ❖ inconsolable crying
- ❖ high pitched crying
- ❖ restlessness
- ❖ Jitteriness/tremors
- ❖ myoclonic jerking
- ❖ feeding problems
- ❖ sucking/swallow difficulty
- ❖ poor weight gain
- ❖ skin excoriation
- ❖ skin mottling
- ❖ difficulty sleeping
- ❖ tense arms and legs
- ❖ vomiting
- ❖ diarrhea or frequent stools
- ❖ yawning
- ❖ fever
- ❖ sweating
- ❖ sneezing
- ❖ nasal stuffiness
- ❖ fast breathing

HCMC NICU NAS Protocol

Protocol Goals:

- ❖ reliable monitoring of symptoms
- ❖ standardized morphine protocol for dosing
- ❖ effectively working to reduced length of hospital stay
- ❖ goal is to avoid infant readmission for NAS treatment

HCMC NICU NAS Protocol

The most effective interventions to date:

- ❖ development of a staff NAS education program
- ❖ implementation of a standard treatment protocol
- ❖ formation of taskforce to improve communication, to disseminate vital treatment information to all clinical staff.

How NAS is evaluated

Different scoring systems have been developed for assessing the severity of neonatal abstinence syndrome:

- ❖ Finnegan
- ❖ Ostrea
- ❖ Lipsitz
- ❖ Rivers
- ❖ Neonatal Intensive Care Unit Network Neurobehavioral Scale (NNS).

The most widely used is the Finnegan scoring system, in both its original and modified forms. Any system requires staff training and is subject to user bias.

Finnegan Scoring Tool

- ❖ predominant tool used in the United States
- ❖ more comprehensive
- ❖ assigns a cumulative score based on observation of 21 items relating to signs of neonatal withdrawal
- ❖ Infants should be assessed for s/s withdrawal every 3-4 hours.
- ❖ symptoms should be scored within the PRECEDING 3-4 hour period
- ❖ infants should be fed BEFORE they are scored

SYSTEMS	SIGNS AND SYMPTOMS	SCORE	AM						PM						DAILY WT.	
			2	4	6	8	10	12	2	4	6	8	10	12		
CENTRAL NERVOUS SYSTEM DISTURBANCES	High Pitched Cry	2														
	Continuous High Pitched Cry	3														
	Sleeps < 1 Hour After Feeding	3														
	Sleeps < 2 Hours After Feeding	2														
	Hyperactive Moro Reflex	2														
	Markedly Hyperactive Moro Reflex	3														
	Mild Tremors Disturbed	2														
	Moderate Severe Tremors Disturbed	3														
	Mild Tremors Undisturbed	1														
	Moderate Severe Tremors Undisturbed	2														
	Increased Muscle Tone	2														
	Excoriation (specify area): _____	1														
	Myoclonic Jerks	3														
Generalized Convulsions	3															
METABOLIC VASOMOTOR/ RESPIRATORY DISTURBANCES	Sweating	1														
	Fever < 101 ^o F (39.3 ^o C)	1														
	Fever > 101 ^o F (39.3 ^o C)	2														
	Frequent Yawning (> 3-4 times/interval)	1														
	Mottling	1														
	Nasal Stuffiness	1														
	Sneezing (> 3-4 times/interval)	1														
	Nasal Flaring	2														
	Respiratory Rate > 60/min	1														
Respiration Rate > 60/min with Retractions	2															
GASTROINTESTINAL DISTURBANCES	Excessive Sucking	1														
	Poor Feeding	2														
	Regurgitation	2														
	Projectile Vomiting	3														
	Loose Stools	2														
Watery Stools	3															
SUMMARY	TOTAL SCORE															
	SCORER'S INITIALS															
	STATUS OF THERAPY															

Adapted from Finnegan L. Neonatal abstinence syndrome: assessment and pharmacotherapy. Neonatal Therapy: An update, F.F. Rubaltelli and B. Granti, editors. Elsevier Science Publishers B.V. (Biomedical Division). 1986: 122-146

How NAS is treated

Neonatal Withdrawal Inventory Scoring *:

- ❖ after every other feeding if score is ≤ 5
- ❖ after every feeding if score > 5

Treatment:

- ❖ Not all infants require pharmacological support
- ❖ Morphine is initiated if three consecutive scores >8 or two >12
- ❖ Small incremental increase in morphine dose until score < 8
- ❖ Cardiac monitor required during morphine increase

*scoring assessment based on behaviors for full term infant, may not be appropriate for preterm infants

How NAS is treated

Weaning from pharmacological support:

- ❖ After 24 to 72 hours of NAS scores <8 , morphine weaning may begin
- ❖ Clonidine may be added to assist, if weaning morphine fails due to increased NAS scores
- ❖ Rescue dosing may be necessary during the weaning period
- ❖ Phenobarbital reserved for severe withdrawal

Lessons – address the fear or bias

In many hospitals, nursing staff particularly NICU (neonatal intensive care unit) nurses, are often uncomfortable feeding compromised infants with breastmilk from their mothers receiving methadone.

Not knowing exactly what the milk contains (“if she takes methadone, what else might be in this milk?”) is voiced in NICUs around the world.

Lessons – address the fear or bias

While it may seem like a reasonable concern, it is a pejorative question that may create an adversarial relationship between a mother and the nurse caring for her infant.

Mother becomes concerned as she needs to keep a positive and trusting relationship with her infant's nurse.

Lessons – address the fear or bias

On occasion, a nurse may question:

“is it pumped breastmilk or something else?”

As lactation support, it is important to approach the situation of “questionable milk” without assumption or judgment.

lessons

Look at the milk: - does the cream rise to the top?
- color concerns, what did mother eat

Smell the milk:- formula has a very distinct smell
- milk with high lipase causes a sour smell
- maternal diet – garlic, broccoli, etc.

Creamatocrit: - breastmilk separates in the tube
- homogenized milk or formula,
no separation

lessons

Genuinely thank those nurses taking care of the NAS baby and the family

It can be a challenging day with a very high need infant

NICU nurses welcome help with breastfeeding support and encouragement for the mother

Lactation support:
What is our role?

Prenatal Lactation Consults

- ❖ anytime during the pregnancy
- ❖ very helpful in addressing concerns early
- ❖ discuss feeding and pumping options
- ❖ establishes a relationship for lactation care

Lactation support

It is not really different
than an other mother/baby dyad
you help with breastfeeding.

Lactation support

Follow Linda Smith's simple rules:

1. Feed the baby
2. Protect the milk supply
3. Maintain the relationship of mother and baby with skin to skin contact when possible

Lactation support

The power of Skin to Skin contact:

- ❖ essential to ease infant's pain
- ❖ assists infant with thermoregulation
- ❖ increases mother/infant bond
- ❖ increases mother's confidence in caring for her baby

Lactation support

- ❖ Do what you would normally do with any mother baby dyad
- ❖ Keep mother and baby together as much as possible
- ❖ Encourage breastfeeding and/or hand expression/pumping

Lactation support

- ❖ Teach calming techniques and comfort measures
- ❖ Be kind, compassionate, empathetic and respectful
- ❖ Create a therapeutic environment, free of judgment, rigid biases or punitive attitudes

Lessons

Many mothers experience feelings of guilt, shame, remorse, anxiety and have difficulty coping.

They may have other issues with alcohol, tobacco, food or other compulsive behaviors.

They may not want their family to know. It is important to respect their right to privacy.

Lessons

Withdrawal is painful for the infant

- ❖ hard for mother to see her baby going through withdrawal
- ❖ difficult for mother to cope, calm and feed her baby
- ❖ difficult for families to see mother and baby struggle
- ❖ challenging for caregivers assisting these complex situations

lessons

Ongoing in-service training for staff is critical to help staff process issues, concerns and challenges to improve the care for NAS babies and their families.

Sharing the responsibility for NAS infants by trading assignments, can provide a much needed break for the staff person.

Lactation support - baby with nas

Difficulty:

- ❖ uncoordinated suck/swallow
- ❖ hypersensitivity
- ❖ hypertonicity
- ❖ clamping, biting, oral aversion
- ❖ nasal stuffiness
- ❖ vomiting
- ❖ sleepy or sleepy appearing
- ❖ inconsolable crying

Things to try:

- ❖ gentle handling
- ❖ gentle rocking
- ❖ soft voice
- ❖ skin to skin
- ❖ pacifier or no pacifier
- ❖ nipples shield
- ❖ slow flow nipples
- ❖ soft or firm swaddle

Calming the baby

Environmental Control

- ❖ Private room if available, or quietest portion of the nursery
- ❖ Rooming-in can decreased length of stay and duration of therapy for the baby
- ❖ Avoid noisy equipment (ventilators, CPAP, air handlers)
- ❖ Avoid newly admitted infants who may demand a lot of attention

Calming the baby

Environmental Control

- ❖ Blanket over basinet to reduce light (check policy)
- ❖ Cluster cares to limit the number of times an infant requires handling by staff
- ❖ Maintain a moderate temperature – not too cool, not too warm

calming the baby

Handling the NAS baby;

- ❖ Handling should be slow and gentle
- ❖ Pressure over head and body has a calming effect
- ❖ Holding and gentle rocking may be effective
- ❖ Gentle rhythmic patting on infant's bottom can be soothing for some infants

calming the baby

Skin-to-skin care:

- ❖ Study of skin to skin holding for 1 hour after feeding:
 - ❖ resulted in decreased pain scores
 - ❖ improved sleep patterns
 - ❖ mothers felt good about their unique contribution to the care of the infant.
- ❖ No studies of continuous Kangaroo Care in NAS infants

Calming the baby

Swaddling:

- ❖ Tight swaddling may be effective for containing the infant from hypertonic and erratic movement
- ❖ Soft swaddling may be effective – each baby has unique needs
- ❖ Provides boundaries which may prevent excoriation from excessive repetitive movements and scratching
- ❖ Helps maintain regulation, self-soothe, and better tolerance of stimulation
- ❖ Hands to mouth vs. at side? Mittens?

Calming the baby

Irritable infants - the most common cause of maternal failure to establish lactation in women on MMT

- ❖ maternal guilt and anxiety aroused by a crying baby
- ❖ difficulty in latching baby to breast
- ❖ concerns that the baby “does not like me”
- ❖ concerns that baby does not like the breast
- ❖ infant clamping or biting, inducing maternal pain

Calming the baby

- ❖ Recognize and address maternal anxiety, because an anxious mother may have difficulty with calming her infant
- ❖ Infants cannot cry and latch to the breast, so careful handling is a critical issue
- ❖ Putting an infant to the breast while he is still drowsy or before he is fully alert may eliminate some fussiness

Feeding

- ❖ Infants affected by NAS may have motor control and integration of feeding rhythms disrupted
- ❖ May try to eat excessively
- ❖ May not eat enough to meet their caloric needs
- ❖ Monitor weight gain - too much or too little
- ❖ Smaller, more frequent feeds with high caloric density may be required

feeding

Remember other ideas of non-pharmacologic interventions during feeding

- ❖ Positioning, Containment, Handling
- ❖ Rubbing instead of patting to elicit a burp
- ❖ Patting may elicit a Moro reflex
- ❖ Paced breast or bottle feeding

Feeding plan

Rule #1

Feed the baby!

Feeding plans

Consider:

- ❖ feeding infant at breast more frequently than NICU 3 hours schedule
- ❖ a nipple shield may help to organize the infant
- ❖ allow the infant to pace the feeding
- ❖ assist mother with positioning infant at breast so both are comfortable

Feeding plan

Rule # 2

Protect the milk supply!

Feeding plan

Pumping:

- ❖ Provide supplemental breastmilk as needed for infant
- ❖ If mother is unable to take advantage of “mother’s room status” (MRS) during her infant’s hospitalization
- ❖ Reduce and relieve engorgement
- ❖ Increase milk supply

Feeding plan

Mother may not be able to follow the feeding plan, so then what?

- ❖ Work to support and encourage mother with what she is able to provide
- ❖ Suggest alternatives to rigid scheduling of pumping or feeding
- ❖ Accept her limitations to promote positive interaction – no guilt – keep communication open

Feeding plan

Rule # 3

Maintain the relationship of
mother and infant with
skin to skin contact
whenever possible!

lessons

- ❖ Value the mother's presence
- ❖ Value the available breastmilk
- ❖ Thank her for the work she is doing to help her baby and provide her baby with her breastmilk
- ❖ If formula is needed, remind the mother of the importance of Rule # 1 – Feed the baby

Supporting the mother

There are a variety of reasons why drug-dependent women do not often breastfeed

- ❖ family and social factors
- ❖ medical issues
- ❖ psychiatric concerns
- ❖ cultural, racial or ethnic
- ❖ concerns about milk supply
- ❖ concerns about maternal medications affecting her milk
- ❖ concern about the nutritional composition of their milk

Supporting the mother

- ❖ Many drug-dependent women come from multigenerational drug-abusing families
- ❖ Are without positive role models for breastfeeding after birth
- ❖ Chemically dependent women lack support from family
- ❖ Fathers may still be actively using drugs
- ❖ May be threatened by the drug abstinence that breastfeeding mothers must achieve
- ❖ May work overtly or covertly to make them unsuccessful

Adjusting the support to help a mother breastfeed

Low self-esteem may make some women unable to trust their own bodies to provide adequate nutrition for their infants

These are women often experienced with failure:

- ❖ failure at previous attempts at substance abuse treatment
- ❖ failure at interpersonal relationships
- ❖ failure at employment
- ❖ failure at the retention of custody of previous children

Adjusting the support to help a mother breastfeed

- ❖ will expect to fail at breastfeeding and give up after a day or two, even with support
- ❖ a surprisingly low tolerance for discomfort
- ❖ discourages many drug-dependent women from breastfeeding when they develop sore nipples or uterine cramping.

Adjusting the support to help a mother

If the mother decides to discontinue breastfeeding:

- ❖ LC can help her learn paced bottle feeding
- ❖ Insure she knows how to prepare/use formula safely
- ❖ Discuss comfort measure to reduce engorgement
- ❖ Help her down-regulate her milk supply

“Vitality shows
in
not only the
ability to persist
but the
ability to start over.”

F. Scott Fitzgerald

Changing the culture around assisting Opiate addicted mothers

Overwhelming feelings of guilt surrounding their part in their infants' difficulties with NAS

- ❖ distance many women from their infants
- ❖ a woman in recovery has difficulty focusing on her infant's needs
- ❖ her own needs may be great, such as:
 - ❖ financial woes
 - ❖ housing issues
 - ❖ intimate partner violence
 - ❖ postpartum depression
 - ❖ newly opened children's protective services case

Changing the culture around assisting Opiate addicted mothers

Another common reason that women elect not to breastfeed their infants is their instability in their recovery process and their fear of relapse to illicit substances.

Most women in treatment will recognize the difficulties associated with relapse to drug use.

Women deciding to breastfeed to keep themselves from relapsing should be carefully evaluated and counseled regarding this decision.

Lactation support after discharge

Planning for discharge, mother should know:

- ❖ Infant will likely remain sensitive at home
- ❖ How to identify feeding cues
- ❖ How to identify need for calming
- ❖ Slowly introduce more stimulation based on infant cues/readiness for interaction
- ❖ Discuss how long to anticipate symptoms

Lactation support after discharge

Discharge Planning and Follow-up Care:

- ❖ Address what to do if they are overwhelmed
- ❖ Have a “go to” person for support
- ❖ Recommend lactation counseling or support groups
- ❖ Discuss self care