

NEONATAL ABSTINENCE SYNDROME

Public Health Issue

Neonatal abstinence syndrome (NAS), also known as substance exposed newborns (SEN), is a group of physiological and neurobehavioral symptoms experienced by newborns exposed to certain prescription (e.g., opioids or benzodiazepines) and/or illicit drugs taken by a mother during pregnancy. Infants with NAS have prolonged hospital stays, experience serious medical complications, and place a tremendous strain on service systems [1-3].

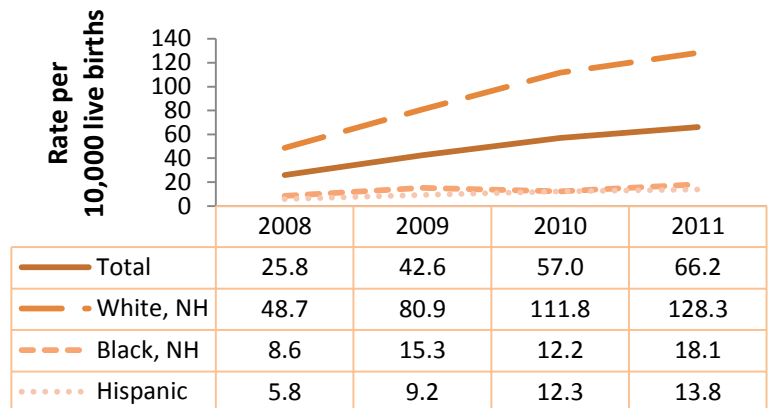
NAS is associated with numerous central nervous system, gastrointestinal, as well as metabolic, vasomotor, and respiratory signs and symptoms, including high-pitched crying, seizures, sleep problems, poor feeding, diarrhea, poor weight gain, fever, nasal stuffiness, and rapid breathing [1]. Withdrawal signs will develop in 55% to 94% of newborns exposed to opioids in utero [3].

Magnitude and Trend

In Florida, NAS has increased from 592 (of 231,417) live births in 2008 to 1,411 (of 213,237) live births in 2011 [2, 4]. During this time, racial/ethnic disparities existed such that NAS rates were substantially higher among non-Hispanic (NH) White infants than among NH Black and Hispanic infants (Figure 1).

The number of hospital discharges of newborns diagnosed with NAS has increased 10-fold in Florida since 1995, far exceeding the 3-fold increase observed nationally [3, 5]. Notably, reporting of NAS varies by hospital because there is no statewide standardization for the diagnosis and reporting of substance exposed newborns. Consequently, statewide NAS data are likely underreported.

Figure 1. NAS Rates by Race/Ethnicity, Florida 2008–2011



Source: Florida Department of Health, Florida Birth Defects Registry

National and State Goals

The Healthy People 2020 Objective MICH-11.4 is to increase abstinence from illicit drugs among pregnant women to 98.3% [6]. According to the National Survey on Drug Use and Health, in 2010–2011, 90.6% of pregnant females aged 15–44 years in the nation reported abstaining from illicit drugs in the past 30 days [6]. Florida has numerous objectives and initiatives to reduce NAS including adding NAS to the list of reportable diseases effective June 4, 2014.

Current State Programs and Initiatives

The Florida Statewide Task Force on Prescription Drug Abuse & Newborns created the following policy recommendations for the prevention, intervention and best practices, and treatment of NAS [1]:

- Provide individuals with the information and skills necessary to stop the problem of prescription drug abuse to deter the onset of addiction
- Provide medical training, prenatal health care screenings, methods that detect and respond to substance exposure at the time of delivery, as well as interventions that provide services for the newborn as well as the family immediately after birth.
- Provide medical and/or psychotherapeutic care for substance dependencies such as alcohol, illegal drugs, or prescription drugs
- Add NAS to the list of Reportable Diseases and Events, which would enable Florida's Surgeon General, the Department of Health (FDOH), and the Agency for Health Care Administration to gather more accurate data on the extent of NAS in Florida

Public Health Strategies and Practices

NAS is a treatable condition and 100% preventable if a woman does not use substances during pregnancy [1, 2]. Two treatment options for pregnant women addicted to opioids are detoxification or a Medicated Assisted Treatment (MAT) program [1].

An opiate-dependent pregnant woman is maintained on a MAT (either methadone or buprenorphine) to the point where there is no drug withdrawal. A MAT program can also better assist a woman to cope with her addiction while she continues to receive substance abuse counseling, routine drug testing, and additional recovery support services [1]. While maintenance treatments reduce illicit drug use, improve compliance with obstetric care and improve neonatal birth weight, they are still associated with NAS [7]. A MAT program may be selected over detoxification because the latter leads to more women returning to illicit opioid use [1].

Treatment of substance exposed infants is greatly aided when their mothers receive medical care early in their pregnancies. After delivery, some doctors will treat NAS with methadone or morphine, while others will use a sedative like Phenobarbital or Clonidine. In addition to medical therapy, several environmental and newborn care practices can also ease NAS symptoms in infants such as reducing environmental noise and light. Also, swaddling the infant, giving small frequent feedings, and if possible supplying maternal breast milk can ease the withdrawal symptoms of substance exposed infants and possibly facilitate earlier discharge [1].

The FDOH contracts with 32 Healthy Start Coalitions (HSCs) across the state to assess prenatal and infant health care needs. The HSCs provide screening, education and care coordination services for substance abusing pregnant women, and substance exposed newborns. The HSCs collaborate with the local health department(s), the local child protection team, providers of Healthy Start services, prenatal and pediatric care, the local Children's Medical Services providers, Healthy Families Florida, substance abuse treatment providers, and the local Department of Children and Families and their contracted providers, hospitals and birthing centers in forming interagency agreements to ensure coordinated, multi-agency assessment of and intervention for the health, safety, and service needs of women who abuse alcohol or other drugs during pregnancy, and of substance exposed children up to age three.

The FDOH also receives funding for the Targeted Outreach for Pregnant Women Act (TOPWA) program, which reaches high-risk HIV-infected pregnant women who are not receiving adequate prenatal care. For the 2012-13 fiscal year, TOPWA received \$470,563 from federal funds and \$500,000 from state general revenue. The purpose of the program is to lower the number of

babies born with prenatal drug exposure and HIV infection. TOPWA projects are currently in Miami-Dade, Broward, Palm Beach, Orange, Hillsborough, Pinellas, Duval, St. Lucie, Glades, Hendry and Lee counties [1].

DOH Capacity

The FDOH collaborates with the 32 Healthy Start Coalitions who organize local systems of care and referral networks for substance abusing pregnant women. TOPWA programs are included in the referral network. The Florida Administrative Code was changed on June 4, 2014 adding NAS to the list of reportable diseases which will increase the state's ability to track the number of cases. FDOH leadership supports efforts to identify, assess, and refer substance abusing pregnant women to appropriate treatment and track the number of NAS cases to identify trends and inform program development.

References

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