Opioid Use in Rural Pregnant Women and Neonatal Abstinence Syndrome

Opioid abuse and addiction in pregnant women is an epidemic; the scope reaches not only metropolitan areas, but the most rural places in Kentucky as well. Opioids have long been used in the United States for moderate to severe pain, cough, diarrhea, anxiety due to shortness of breath, and for treatment of opioid dependence. Opioid-based drugs come in many broad forms and are called opiates. Opiates include common drugs such as morphine and codeine as well as oxycodone, heroine, hydrocodone, methadone, fentanyl and tramadol to name a few. Endogenous opioids are produced in the body naturally and are substances such as endorphins. When a drug is prescribed to someone but it is not used in the way that it is intended it is misused. Misuses of opioids are common because they have the ability to produce euphoria. An opioid is a chemical that binds to opioid receptors found in the gastrointestinal tract and the central nervous system. Therefore, the beneficial effects and side effects of these drugs are found in these systems. Due to the euphoric feelings opiates produce and the withdrawal symptoms that occur once dependent on the drug, many at risk populations become physically and psychologically addicted.

Rural pregnant women in Kentucky are one of these populations who are at risk for opioid misuse and addiction. According to one study (Shannon, Havens & Hays, 2010), pregnant women from rural areas were 8.4 times more likely to report illicit opiate use. The problem is complex and perplexing but some suspected reasons for the increase in opioid use have been examined. During the past two decades, there have been distressing economic setbacks in rural Kentucky. Farming, manufacturing and mining have been some of the industries hardest hit and are the heart of rural jobs. This has caused increased stress as rural families try to make ends meet. There is a mutual bond between urban and rural drug traffickers, with urban drug dealers seeking out new drug markets in Appalachia, and rural drug manufacturers selling their goods in urban areas (Schoeneberger-et.al, 2006). Diagnosis of mental disorders independent from substance abuse are proportionately higher in Appalachia than in the rest of the nation which puts this rural population at risk for serious drug abuse as a means of coping (ARC study, 2008). Adding a pregnancy to an already opiate-addicted person will increase the risk of negative pregnancy outcomes to the pregnant mother and her fetus/newborn.  

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Sudden withdrawal from opiates during pregnancy can cause serious problems to the mother and her fetus. Trying to go “cold turkey” during pregnancy can lead to miscarriage. Continuing to use opiates during pregnancy also puts the pregnancy at risk for loss, so it is a "catch 22." “The abuse of heroin or other opiates during pregnancy is associated with a 600 percent increase in prenatal obstetric complications. Babies who are born to opiate-abusing mothers have lower birth weights, and these infants are at greater risk of sudden infant death syndrome (SIDS)” (http://www.heroin-detox.org/opiates_pregnancy.htm). Instead of these women suddenly withdrawing from opiates, those who seek help are usually placed on a methadone or buprenorphine maintenance program and monitored closely throughout their pregnancy.

Although methadone and buprenorphine maintenance programs are associated with better outcomes to the mother and the fetus, these programs are not without complications. Opioid users with or without treatment put their newborn at risk for a condition called neonatal abstinence syndrome. Babies born with opioid withdrawal have specific symptoms involving the central nervous system and the gastrointestinal system that usually present within the first 48 to 72 hours of life, but may be postponed up to four weeks. These babies can require intensive care for up to 10 weeks or longer (Bhuva, et. al, 2008). A recent study in the New England Journal of Medicine (Jones et. al., 2010) found that buprenorphine is the preferred treatment over methadone for withdrawing women from opiates during pregnancy. Even though both drugs had similar maternal/fetal outcomes, buprenorphine showed less severity of withdrawal symptoms in neonatal abstinence syndrome, required less medication to treat these infants, and infants required a shorter hospital stay. However, this study doesn’t take into account poly-substance abuse, which is often seen in rural Kentucky.

What are the signs and symptoms to look for in your pregnant mothers and their newborns? For pregnant women the risk criteria are: positive maternal drug history, positive maternal drug screen, limited or no prenatal care, unusual behavior noted by staff, placenta abruption, previous fetal demise, previous preterm birth, positive history of sexual transmitted disease, current or previous social services involvement, or siblings not living with the mother. Other risk factors include gravida 4 or more, physical injuries, history of chronic pain, and disorientation, and confusion during interviews (Reynolds, 2010).

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Signs and Symptoms of Neonatal Abstinence Syndrome

- **CNS Dysfunction**
  - High-pitched cry, restlessness, hyperactive reflexes, jitteriness, tremors, hypertonia, myoclonic jerks, seizures

- **Metabolic and Vasomotor Disturbance**
  - Sweating, fever, mottling, yawning

- **GI Dysfunction**
  - Excessive sucking, poor feeding, hyperphagia, vomiting, loose stools

- **Respiratory Symptoms/Other**
  - Sneezing, nasal flaring, tachypnea, apnea
  - Abrasions, excoriations

Abrasions, excoriations
Community Helpers Day at Sandersville Elementary, Lexington  

It’s all in the family at the Samuelson house! Mark is a Lexington firefighter, Kimberly is a member of the Kentucky Kids Crew and Will is a kindergartener at Sandersville Elementary.

Saul Good Benefit for Kentucky Children’s Hospital  

The Kentucky Kids Crew Ambulance sits outside of Saul Good for a benefit to help Kentucky Children’s Hospital. March 2011.

Rosenwald Dunbar Elementary, Nicholasville  

Kimberly and Will Samuelson at the Sandersville Elementary Community Helpers Day March 2011.

Alissa Bastin and Caty Curls, members of the Kentucky Kids Crew explained to a student how the isolette helps keep babies warm. March 2011.

Attendance at public relations events is one of the fun jobs we have as members of Kentucky Kids Crew. Whether teaching kindergarteners about first aid, giving tours of the ambulance or helping to raise money for Kentucky Children’s Hospital, we are glad to be a part of supporting Kentucky’s children. If you would like the Kentucky Kids Crew to attend your event, contact Shelly Marino at 859-257-4678.
References

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