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Parenting and Concerns of Pregnant Women in Buprenorphine Treatment

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Abstract

Purpose—Opioid-dependent pregnant women are characterized by drug use during pregnancy and deficits in knowledge of newborn care and feeding, and of child development. We assessed parenting skills and concerns among pregnant women in buprenorphine treatment for prescription opioid-dependence.

Study Design and Methods—We interviewed 32 pregnant women who received buprenorphine treatment for prescription opioid dependence in a primary care setting and administered questionnaires, including the Adult-Adolescent Parenting Inventory version 2 (AAPI-2) and Childhood Experience of Care and Abuse Questionnaire.

Results—AAPI-2 scores revealed medium risk of abuse for all five scales: inappropriate expectations of the child, low level of empathy, strong belief in corporal punishment, reversal of parent-child roles, and oppression of children's power and independence. Primary concerns of participants were neonatal abstinence syndrome (NAS) and their child's health. Pregnant women who received buprenorphine for treatment of prescription opioid dependence showed a lack of appropriate parenting skills, but did not express concern about their ability to parent.

Clinical Implications—Our findings suggest need for nurses to assist prescription opioid-dependent pregnant women in acquiring additional parenting skills, to refer for educational parenting intervention, and to educate patients about NAS.

The authors declare that there are no conflicts of interest.

Keywords

Opioid dependence; pregnancy; parenting deficits; buprenorphine

INTRODUCTION

Prescription opioid dependence is a growing problem among pregnant women in the United States. National data indicate that 16.2% of pregnant teens aged 15–17 years and 7.4% of pregnant women aged 18–25 years reported using illicit drugs in the prior 30 days (SAMHSA, 2011). The prevalence of antepartum maternal opioid use increased from 1.19 cases per 1000 hospital births in 2000 to 5.63 cases per 1000 hospital births in 2009, and the prevalence of neonatal abstinence syndrome (NAS) among newborns increased from 1.20 cases per 1000 hospital births in 2000 to 3.39 cases per 1000 hospital births in 2009 (Patrick et al., 2012).

Neonatal complications due to *in utero* exposure to opioids include: preterm birth, low gestational age, low birth weight, small head circumference, risk of exposure to sexually transmitted diseases and NAS (Farid, Dunlop, Tait, & Hulse, 2008). Methadone maintenance is the standard of care for opioid-dependent pregnant women, and it has many benefits to both mother and fetus. Buprenorphine treatment for opioid dependence has emerged as an appropriate alternative to methadone (Jones et al., 2010).

Child welfare incidents are estimated to be as high as 50–80% for women with substance use disorders (Marsh & Smith, 2011). Children of substance-abusing mothers are more likely to be involved with and removed by Child Protective Services (CPS) because they are at a greater risk of being abused and neglected compared to children of mothers who do not abuse substances (Marcenko, Kemp, & Larson, 2000; Suchman, McMahon, Zhang, Mayes, & Luthar, 2006).

Despite the recent increase in the prevalence of opioid dependence in pregnant women (Patrick et al., 2012), the unique characteristics of opioid-dependent pregnant women in medication-assisted treatment programs are still poorly understood. Past research showed that mothers who are addicted report the desire to change certain parenting activities, including lack of consistency in structure, abandoning children for a period of time to obtain and take drugs, impatience/anger, lack of parenting knowledge, and repeating dysfunctional parenting practices from family of origin (Coyer, 2003). Specifically, women with addictions are more likely to use corporal punishment and have an authoritarian parenting style (Suchman & Luthar, 2000). A previous observational study revealed that pregnant women with a substance use disorder had limited parenting knowledge and held misconceptions about basic parenting practices, specifically regarding newborn care, feeding, drug use during pregnancy, and child development (Velez et al., 2004). Therefore, we hypothesized that women with prescription opioid addiction have inadequate parenting knowledge and are concerned with, and want to learn how to correct, deficits in their parenting skills.

STUDY DESIGN AND METHODS

Design

We conducted an observational qualitative and quantitative method study between June 2012 and July 2013 at an ambulatory healthcare facility in a suburban area of western New York State. This study was longitudinal in design and followed pregnant women until they gave birth. In this article we report the results at baseline.

Participants

We collected data from 32 participants who represent a convenience sample of patients who received buprenorphine for treatment of opioid dependence at this facility. Patients must have been in a stable living environment with reliable transportation and have active health insurance at the time of enrollment or be able to pay for their medications by other means to be considered for buprenorphine treatment at this facility. Inclusion criteria for this study were: 1) continuous buprenorphine treatment for opioid dependence, 2) pregnancy, 3) ability to read the English language, and 4) age of 18 years or older. Patients were informed that electing to participate in this study or not would not affect their usual care at this facility. This study was approved by the local university's Institutional Review Board.

Procedures and Measurements

A trained research assistant administered baseline assessments and a semistructured interview at the regular biweekly medical office visits. Participants completed five separate instruments that were administered by the research assistant. The interviews and instruments took from 1 to 2 hours to complete. The instruments included: a self-administered baseline demographic survey (including drug history, abuse history, criminal history, and living situation), a self-administered 13-item parenting questionnaire about past and current CPS involvement, the Adult-Adolescent Parenting Inventory version 2 (AAPI-2), the Childhood Experience of Care and Abuse Questionnaire (CECA-Q), and a 6-item semistructured interview conducted by the research assistant. The AAPI-2 is a 40-item self-administered questionnaire, designed to assess self-reported parenting and child rearing attitudes (Bavolek & Keene, 2010). We analyzed raw scores from the AAPI-2 and calculated "standardized ten scores" based on a normal distribution (i.e., Sten scores). Participants' risk of abuse was assessed by comparing Sten scores to normative tables of age-matched populations (Bavolek & Keene, 2010). The AAPI-2 has been empirically validated to measure the potential of child maltreatment (Connors, Whiteside-Mansell, Deere, Ledet, & Edwards, 2006). The CECA-Q is a valid and reliable instrument to measure adverse childhood experiences (Bifulco, Bernazzani, Moran, & Jacobs, 2005). The demographics survey and the13-item parenting questionnaire were developed to describe the sample characteristics and any CPS involvement. The 6-item open-ended qualitative interview questions were developed for the purposes of this study to more deeply understand the concerns of women with the intent of informing women-centered and family-centered care. The researcher coded and entered the collected data into a de-identified dataset for statistical analysis.

Statistical Analysis

We calculated descriptive statistics using IBM SPSS Statistics 20.0. Baseline demographic data were collected for all 32 participants. The AAPI-2 was inadvertently omitted from the baseline surveys at the beginning of the study. On discovery, this was rectified. As such, the AAPI-2 was not administered for half of the sample, thus explaining the missing data.

RESULTS

Details of baseline characteristics are displayed in Table 1. All 32 participants had health insurance, with 24 (75%) having Medicaid coverage, 2 (6.3%) Medicare coverage, and 6 (18.8%) commercial insurance. Six (18.8%) participants reported separation of their own parents during childhood, 2 (6.3%) abandonment during childhood, and 1 (3.1%) the death of a parent during childhood. For 11 (34.4%) women this was their first pregnancy and 3 (9.4%) reported current CPS involvement.

The research assistant asked the participants about their primary concerns. Results of these semi-structured interviews are displayed in Table 2. One (3.1%) participant reported a concern about CPS involvement. Fourteen (43.8%) of the 32 participants reported concerns about their child experiencing withdrawal symptoms at birth, 10 (31.3%) participants reported concerns about the child's general health after birth, and 6 (18.8%) participants reported concerns about the birthing process. Other concerns were reported, but they were not related to parenting ability. For example, 1 (3.1%) participant was concerned with the transition from buprenorphine/naloxone to buprenorphine.

In response to the open-ended question to describe their parenting style, 4 (12.5%) women reported the use of time-outs, 2 (6.3%) reported being "laid-back" parents who did not use spanking, 1 (3.1%) reported that the father disciplined, 1 (3.1%) used grounding, 1 (3.1%) reported using one-on-one attention and chores, 1 (3.1%) reported a changing parenting style, 1 (3.1%) reported that she avoided spanking unless safety issues such as running on the street required it, 1 (3.1%) reported a "hands-on" parenting style, 1 (3.1%) the desire to use positive reinforcement, and 1 (3.1%) described her parenting style as loving including use of reasoning.

Results from the AAPI-2 are displayed in Table 3, which showed medium risk abuse potential for all scales of the AAPI-2: inappropriate expectations, low level of empathy, strong belief in corporal punishment, reversed family roles, and restricting power and independence.

CLINICAL NURSING IMPLICATIONS

Pregnant women receiving buprenorphine treatment for prescription opioid dependence demonstrated deficits in parenting skills and medium risk of abuse potential. Women were primarily concerned about the baby withdrawing and the baby's health. However, they were not concerned with their parenting skills, and only one woman reported concern about CPS. Therefore, the hypothesis that parenting is the primary concern in these women was not supported. Thirty-five percent of the women were first-time mothers who either had not

been exposed to CPS or had not been aware that CPS could become a concern, which may explain why such a small proportion of the sample reported concern about or current involvement with CPS. Consequently, these first-time mothers were also not concerned about their parenting skills. This might be a characteristic of patients with addiction to prescription opioids compared to street drugs (Johnson & Faraone, 2013). Further research is needed to test this hypothesis.

Box 1 summarizes the clinical nursing implications. Most women were concerned about their baby experiencing withdrawal symptoms due to the buprenorphine treatment. When caring for pregnant women in medication-assisted treatment settings, nurses need to regularly emphasize to mothers about the reduced likelihood and severity of neonatal abstinence syndrome among babies of pregnant patients receiving buprenorphine treatment and how to provide care for a baby with NAS (Jones et al., 2010).

The participants had a medium risk of abuse for the scale of inappropriate expectations, suggesting that the mothers' expectations exceeded the developmental capabilities of children because they lack understanding of child development, a finding supported by the literature (Coyer, 2003). Women with a high risk of abuse on the AAPI-2 scale of low level of empathy lack the skills to nuture their child. The may also have difficulty in coping with parental stress. Past literature suggests that parenting stress is the result of low income and substance abuse (American Academy of Pediatrics [AAP], 2003). Parental stress is particularly relevant for opioid-dependent women who are caring for an infant born with NAS who may require special care. Medium and high risk for the scale of strong belief in the value of corporal punishment is associated with extensive use of spanking and lack of knowledge of alternative disciplining skills to corporal punishment. Opioid-dependent women are characterized by an overly punitive and authoritative parenting style (Suchman & Luthar, 2000). Risk of abuse associated with reversed family roles suggests that these women use children for self-gratification and meeting self-needs. Medium and high risk of abuse for the restriction of power-independence scale of the AAPI is exemplified by expectation of strict obedience and the tendency to view children with power as threatening (Bavolek & Keene, 2010). The low income and Medicaid coverage of most women suggests a low SES, which is associated with substance abuse, family stress, disrupted parenting, and therefore poor child outcomes (AAP, 2003).

A new finding is that the women in this sample who had experience in parenting did not view their parenting deficits as a concern. The type of substance that women were addicted to might account for the difference in parenting concerns in the literature: mothers in the study by Coyer (2003) were addicted to cocaine, while the mothers in our study were dependent on prescription opioids. These two types of patients might have different levels of awareness of their deficits due to differing severity of addictions affecting their life; women in our study may not have been aware of their inadequacies in parenting skills. This highlights the critically important opportunity for specialty nurses, including nurses in substance abuse treatment, neonatal nurses, maternal/child health nurses, and public health nurses, who interact with these mothers throughout their pregnancy and the postnatal period. Based on their area of expertise, nurses need to assess the woman's knowledge of and ability to address her baby's needs and provide anticipatory guidance to the women with high-risk

pregnancies. Since each specialty nurse has a specific skill set, collaboration among them will be important to ensure that the complex needs of the mother and baby are met.

We recommend nursing interventions focus on raising the woman's awareness of challenges she might face in caring for her baby. Building a trusting relationship with opioid-dependent mothers is especially important (Morton & Konrad, 2008). We encourage nurses to offer a referral to enhanced substance abuse services, as is recommended for all patients receiving buprenorphine treatment (Center for Substance Abuse Treatment, 2009). Motivational enhancement strategies may be useful in guiding woman to identify potential care needs for their infants, although this recommendation requires further research.

Pregnancy creates a teachable opportunity in the course of addiction, rendering women potentially willing to change their behavior for the health and well-being of their children. Nurses play a pivotal role in identifying culturally appropriate parenting education programs in the community that can be offered to women who are accepting of such a referral. We strongly recommend that these programs be a part of an integrative approach to addictions treatment for pregnant women to improve the mother-infant relationship and to promote the ability of the mother to confidently care for her newborn (Arria et al., 2013; Paiva et al., 2012). Our preliminary data suggest that primary areas of need during pregnancy are education on parenting skills (particularly in the areas of child development, expectations of the child, empathy for children, child-parent roles, alternatives to corporal punishment, and children's power and independence), risk of NAS for infants born to mothers who receive office-based buprenorphine treatment for opioid dependence, and proper care of a child with NAS. Nurses providing pre-and antenatal care should address these topics as part of their standard practice because nursing care recognizes the family as an integral part of effective care delivery (American Nurses Association/ National Association of Neonatal Nurses, 2013; Association of Women's Health, Obstetric and Neonatal Nurses, 2009).

A large proportion of our sample reported a history of physical and/or sexual abuse, which is associated with substance use disorders. The Adverse Childhood Experiences Study, using a retrospective cohort design with a large sample, showed that childhood abuse, neglect, and household dysfunction were strong predictors for illicit drug use, regardless of birth cohort (Dube et al., 2003). Data from a large Australian case control study support the idea that childhood sexual abuse predicts substance use disorders (Cutajar et al., 2010). Childhood trauma is positively associated with the risk of opioid abuse and likelihood of seeking buprenorphine treatment for opioid dependence (Heffernan et al., 2000). Finally, a history of childhood trauma is a predictor for failure to complete residential substance abuse treatment among adolescents (Neumann et al., 2010).

Adverse childhood experiences may also contribute to poor parenting. Mothers with a child in out-of-home placement are more likely to report a history of abuse and heavy drug use compared to mothers who do not have a child in out-of-home placement (Marcenko et al., 2000). This represents an area with significant clinical implications for nurses. Nurses who work with opioid-dependent mothers or mothers-to-be can become familiar with the woman's childhood experience in addition to her substance use disorder: the woman's family dynamics, her history of abuse, and her parents' style of child rearing might predict

the risk of child abuse or neglect. By working closely with this population, nurses may be able to facilitate acquisition of parenting skills in addition to treatment of opioid dependence, thus breaking the intergenerational cycle of drug abuse, poor parenting, and child abuse and neglect.

Limitations

Our findings are limited in that our convenience sample was not drawn using probability methods and was relatively small, which may have compromised reliability and generalizability. Our sample is comprised of women were dependent on prescription opioid rather than opioid street drugs. Additionally, our data rely on self-reports; women might have withheld information on some of the controversial topics such as CPS and parenting while addicted.

CONCLUSIONS

The findings from our study revealed that prescription opioid-dependent pregnant women lack appropriate parenting skills, but are not concerned with their ability to parent or the potential of CPS involvement. However, they are concerned about their babies developing neonatal abstinence syndrome. Similar at-risk women need targeted interventions to promote raising awareness about their baby's needs and enhancing their motivation to engage in parenting education. Nurses are encouraged to develop parenting education programs for this population that are integrated into opioid-assisted treatment programs. Further studies are needed to examine the influence of an integrative treatment approach to care for opioid-dependent pregnant women on substance use, psychosocial well-being, and parenting skills.

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Callouts

- Pregnant women who receive medication-assisted treatment for opioid dependence are caught in the intergenerational cycle of poor parenting skills, drug use, and abuse and neglect.
- We interviewed opioid-dependent women about their concerns during pregnancy and assessed their parenting skills.
- Opioid-dependent pregnant women were primarily concerned with their child's health and their child experiencing symptoms of opioid withdrawal.
- Although the women had a heightened risk of child abuse, they were not concerned with their ability to parent.
- Nurses have an essential role in promoting the ability of the mother to confidently care for her newborn in the context of the challenges associated with opioid dependence.

Box 1: Clinical nursing implications

- inform pregnant women receiving medication-assisted treatment for opioid dependence about the reduced risk of neonatal abstinence syndrome associated with buprenorphine
- teach pregnant women how to care for a baby with NAS
- assess opioid-dependent pregnant women's knowledge about caring for a baby
- raise opioid-dependent pregnant women's awareness of parenting skills deficits
- build therapeutic and trusting relationships
- motivate the women to seek treatment
- refer to parenting education that is integrated in substance abuse counseling
- develop a parenting program for use at office-based addiction treatment centers

Table 1

Baseline participant characteristics

Demographics	**(*n* = 32)**
Age, mean (SD)	28 (5.7)
Ethnicity, White, No. (%)	26 (81.3)
Marital Status, single, No. (%)	18 (56.3)
Education, some college, No. (%)	17 (53.1)
Employment, unemployed, No. (%)	18 (56.3)
Income	
$0–10,000 per year	15 (46.9)
$10,001–20,000 per year	7 (21.9)
$20,001–30,000 per year	5 (15.6)
$30,001–40,000 per year	1 (3.1)
$50,001–75,000 per year	1 (3.1)
Drug History	
Age (in years) onset of opioid use, mean (SD)	19.6 (7.0)
Age (in years) onset of problematic opioid use, mean (SD)	20.9 (6.2)
Abuse History	
History of physical abuse, No. (%)	11 (34.4)
History of sexual abuse, No. (%)	9 (28.1)
Criminal History	
Past arrest, No. (%)	9 (28.1)
Living Situation	
Previous Child Protective Services involvement, No. (%)	3 (9.4)
Number of children (including pregnancy), mean (SD)	1.9 (1.2)
Relationship with the Father of Current Fetus	
No contact, No. (%)	4 (12.5)
Contact, but no relationship, No. (%)	3 (9.4)
In a relationship, but not engaged/married, No. (%)	11 (34.4)
Engaged, No. (%)	3 (9.4)
Married, No. (%)	8 (25.0)
Current Living Arrangements	
Lives with partner/spouse, No. (%)	21 (65.6)
Lives with children, No. (%)	14 (43.8)
Lives with extended family, No. (%)	4 (12.5)
Lives with roommates, No. (%)	1 (3.1)
Group home/residential treatment, No. (%)	1 (3.1)
Lives with partner’s parents, No. (%)	1 (3.1)
Other, unknown, No. (%)	1 (3.1)

Table 2

Semistructured interview: Primary concerns of opioid-dependent pregnant women

Concern	(*n* = 32)
Any concerns, No. (%)	23 (71.9)
Infant withdrawal at birth, No. (%)	14 (43.8)
Infant's general health at birth, No. (%)	10 (31.3)
Birthing process, No. (%)	6 (18.8)
Delivery complications, No. (%)	4 (12.5)
Cesarean-section complications, No. (%)	2 (6.3)
Woman's personal health after delivery, No. (%)	2 (6.3)
Breastfeeding, No. (%)	2 (6.3)
Woman's personal health, current, No. (%)	2 (6.3)
Providing for the infant, No. (%)	2 (6.3)
Inter-provider communication about medication-assisted treatment, No. (%)	1 (3.1)
Health of multiracial child, No. (%)	1 (3.1)
Boyfriend's parenting skills and lack of experience as a father, No. (%)	1 (3.1)
Timely arrival of mother for delivery, No. (%)	1 (3.1)
Open case with Child Protective Services (CPS), No. (%)	1 (3.1)
Transition from BUP/NAL to BUP[a], No. (%)	1 (3.1)

[a]Abbreviations: BUP/NAL = buprenorphine/naloxone, BUP = buprenorphine. Buprenorphine is combined with naloxone to prevent IV use. However, in pregnant women naloxone can lead to withdrawal symptoms of the baby. Therefore, pregnant women are switched from buprenorphine/naloxone to buprenorphine alone.

Missing data are not included

Table 3

Participant parenting skills, Adult-Adolescent Parenting Inventory

AAPI-2 Construct	Raw scores (*n* = 16)	Sten scores (*n* = 16)
A Inappropriate expectations of child, mean (SD)	20.56[a]/35 (3.6)	4.8[b]/10 (1.6)
B Parental lack of empathy, mean (SD)	44.00[a]/50 (3.4)	5.9[b]/10 (1.7)
C Belief in the use or corporal punishment, mean (SD)	43.44[a]/55 (6.3)	5.6[b]/10 (1.5)
D Reversing parent-child roles, mean (SD)	25.81[a]/35 (3.8)	5.7[b]/10 (1.8)
E Oppressing children's power and independence, mean (SD)	20.25[a]/25 (2.5)	5.9[b]/10 (2.0)

[a,b] Lower scores reflect higher abuse potential

[b] Sten scores of 1–3 reflect high risk of abuse potential, 4–7 medium abuse potential, and 8–10 low risk of abuse

Missing data are not included.