

Prenatal and Postpartum Care of Women with Substance Use Disorders

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KEYWORDS

- Prenatal care • Substance abuse disorder • Postpartum care • Opioid dependence
- Opioid replacement therapy • Pregnancy • Opioid addiction

KEY POINTS

- Prenatal care providers should screen all patients for substance abuse disorders in pregnancy using a validated screening tool.
- Women identified as having a substance abuse disorder in pregnancy should be offered coordinated multidisciplinary care.
- Opioid replacement therapy improves pregnancy outcomes for women with opioid dependence and is not a contraindication to breastfeeding.
- Women with substance abuse disorders should be evaluated and treated for concurrent psychiatric disorders.
- A respectful, nonjudgmental, and flexible approach by clinicians encourages ongoing patient participation in prenatal care.

INTRODUCTION

Epidemiology of Substance Abuse in Pregnancy

The use of substances of abuse in pregnancy creates significant barriers to receiving high-quality prenatal, intrapartum, and postpartum care (**Box 1**). Yet clinicians who recognize and directly face this challenge have an opportunity to make a substantial impact on perinatal outcomes and the long-term health of women and their children. The incidence of substance abuse among pregnant women reflects that of the general population and nonpregnant women by age group. Data from the 2012 National Survey on Drug Use and Health shows that the rate of current illicit drug use among girls and women aged 12 or older was 6.9%. This survey also determined that among girls and women ages 15 to 44, encompassing the reproductive years, 10.7% of nonpregnant women and 5.9% of pregnant women were current illicit drug users, based on

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Box 1**Barriers to care for pregnant women with substance use disorders**

- Inadequate screening for substance abuse by prenatal care providers
- Fear of seeking care due to societal stigma and legal ramifications
- High baseline anxiety and poor coping skills
- Difficulty establishing trusting relationships with providers
- Underlying psychiatric disorders
- Lack of transportation and child care
- Intimate partner violence and/or controlling behavior of partner
- Incarceration

averaging of data from 2011 and 2012. Analysis of pregnancy-related data by age group shows that, among pregnant teens ages 15 to 17, the rate of current illicit drug use was 18.3% and was 9.0% for pregnant women ages 18 to 25 and 3.4% among those aged 26 to 44.¹

Opioids account for a substantial proportion of substances abused, with disturbing trends toward increased use in recent years, including illicit opioids, such as heroin, and prescription opioids, such as oxycodone. A study analyzing *International Classification of Diseases, Ninth Revision, Clinical Modification* codes showed an increase in antepartum maternal opioid use from 1.19 to 5.63 per 1000 hospital births between the years 2000 and 2009.² During the same period, the incidence of neonatal abstinence syndrome (NAS) increased from 1.20 to 3.39 infants per 1000 hospital births.² This study also assessed costs related to the treatment of NAS, which were estimated at a mean of \$53,400 per infant hospitalization in 2009.²

Effects of Substance Abuse on Pregnancy

Pregnancies complicated by substance abuse are at risk of miscarriage, preterm delivery, intrauterine growth restriction, placental abruption, fetal intraventricular hemorrhage, intrauterine fetal demise, NAS, and other infant developmental effects.³ An accurate accounting of total costs related to substance abuse in pregnancy would need to include those related to antepartum hospitalizations for drug intoxication, withdrawal, and associated complications; correctional services expenditures related to incarceration and associated legal costs; care of infants born prematurely or with other medical complications related to substance exposure; funding of child protective services investigations and interventions; and the essentially impossible-to-quantify cost of human suffering of women and their children, families, and communities.

CHALLENGES FOR CLINICIANS

Appropriate Screening Implementation

Given the incidence of substance abuse in pregnancy, all clinicians who provide prenatal care encounter affected women, regardless of practice setting and demographic characteristics. Care is complicated by the difficulty of identifying women with substance abuse issues in pregnancy. Clinicians may fail to appropriately screen patients due to concerns about time utilization, the belief that their practice setting does not include women with substance abuse issues, or lack of resources available for those who screen positive.⁴ Although universal urine drug screening has been advocated by some clinicians and policy makers, this practice fails to identify women with sporadic

but clinically significant use⁵ and may discourage women from seeking prenatal care. Urine drug testing based on clinician suspicion risks racial and socioeconomic profiling. Several validated survey-type screening tools are available, including the 4 Ps,⁴ T-ACE,⁶ TWEAK,⁷ and others,⁴ and these provide an efficient and effective means of screening all pregnancies for substance abuse (Box 2). These tools can

Box 2

Screening tools for substance use disorders in pregnancy

TWEAK^a

T: Tolerance—How many drinks can you hold?

W: Have close friends or relatives Worried or complained about your drinking in the past year?

E: Eye-opener—Do you sometimes take a drink in the morning when you first get up?

A: Amnesia—Has a friend or family member ever told you about things you said or did while you were drinking that you could not remember?

K(C): Do you sometimes feel the need to *Cut down* on your drinking:

A 7-point scale is used to score the test. The Tolerance question scores 2 points if a woman reports she can hold more than 5 drinks without falling asleep or passing out. A positive response to the Worried question scores 2 points, and a positive response to the last 3 questions scores 1 point each. A total score of 2 or more points indicates the woman is likely to be a risk drinker.

T-ACE^b

T: Tolerance—How many drinks does it take to make you feel high?

A positive answer, scored a 2, is more than 2 drinks. This suggests tolerance of alcohol and very likely a history of at least moderate alcohol intake.

A: Annoyed—Have people annoyed you by criticizing your drinking?

C: Cut down—Have you felt you ought to cut down on your drinking?

E: Eye opener—Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?

The first question is scored 0 or 2 points. The last 3 questions are scored 1 point if answered affirmatively. A total score of 2 or more is considered positive for risk drinking.

4 Ps^c

Have you ever used drugs or alcohol during this *Pregnancy*?

Have you had a problem with drugs or alcohol in the *Past*?

Does your *Partner* have a problem with drugs or alcohol?

Do you consider one of your *Parents* to be an addict or alcoholic?

This screening device is often used as a way to begin a discussion about drug or alcohol use. Any woman who answers yes to one or more questions should be referred for further assessment.

^a From Russell M. New assessment tools for drinking in pregnancy: T-ACE, TWEAK, and others. Alcohol Health Res World 1994;18:59.

^b Adapted from Sokol RJ, Martier SS, Ager JW. The T-ACE questions: practical prenatal detection of risk-drinking. Am J Obstet Gynecol 1989;160(4):865.

^c From Ewing H. A practical guide to intervention in health and social services, with pregnant and postpartum addicts and alcoholics. Martinez, CA: The Born Free Project, Contra Costa County Department of Health Service; 1990.

be effectively administered in a few minutes during a prenatal intake appointment. Those who screen positive require a more detailed assessment of their substance abuse disorder.

Societal Stigma and Patient Fears

Pregnant women with substance abuse disorders face stigmatization and judgment from society and the medical profession, despite that many women arrive at substance abuse after victimization via childhood sexual abuse or neglect, adult sexual assault, intimate partner violence, and prostitution as well as mental health disorders.⁸ Clinicians who provide specialized care to this patient population may find the need to educate colleagues and other staff members regarding these risk factors and the need for sensitivity and compassion.⁴

Women with substance abuse disorders are often afraid to seek prenatal care due to concerns about legal ramifications, including involvement of child protective services.⁹ Because of these fears, they may present to care late in the pregnancy or fail to seek care until the onset of pregnancy complication symptoms or labor. They may have difficulty establishing trusting relationships with their prenatal care providers, which can impede their ability to discuss important aspects of their health. In addition, substance abuse charges account for a large proportion of women who are incarcerated,¹⁰ and those who are pregnant and jailed face significant challenges in accessing appropriate prenatal care¹¹ and substance abuse treatment, including difficulties obtaining opioid replacement therapy.¹² When women are released from incarceration, provisions may not be made for ongoing prenatal care, including failure to convey information from the correctional facility to the women about upcoming scheduled prenatal care and related appointments.

High Resource Utilization

Caring for women with substance abuse disorders in pregnancy is resource intensive. Women may require more frequent appointments and may miss more appointments due to transportation difficulties and lack of child care compared to women without substance abuse disorders.^{9,13} High baseline anxiety levels, poor coping skills, and underlying psychiatric disorders¹⁴ can require more clinician time during prenatal care appointments to adequately support women and promote trust and confidence in care providers. Multidisciplinary care, including using substance abuse counselors, social workers, case managers, psychiatrists, and opioid replacement therapy providers, is required for optimization of care.¹⁵

PRENATAL MANAGEMENT

Pregnancy Options Counseling

Women with active substance abuse disorders are at risk for unplanned pregnancy.¹⁶ On diagnosis of pregnancy, a woman's feelings about being pregnant and about parenting should be elicited and pregnancy options counseling should be provided if desired. A discussion of pregnancy options includes information about parenting, adoption, and pregnancy termination via medication or surgical abortion.

Substance Abuse History, Patient Education, and Harm Reduction

Once substance use is identified using a recommended screening tool or due to patient disclosure, a thorough substance abuse history should be taken. This includes identifying which substances are used, plus the route (inhalation, ingestion, or injection), frequency, and length of use. Symptoms that occur on discontinuation of the substance should be reviewed to determine whether dependence exists, which

results in a withdrawal syndrome. The substance use history of close family members and partner(s) should also be elicited. Women should be educated about the risks of individual substances to their health and the health of the pregnancy, including risks related to alcohol and tobacco use. Many patients decrease their use of substances of abuse to some degree simply after a discussion of risks with their health care provider.⁴

Substance abuse disorder is a relapsing-remitting condition. During treatment, periods of abstinence are interrupted by relapse to use of the substance(s) of abuse, followed by a return to abstinence. The goal is for periods of abstinence to become longer, with relapses becoming shorter in duration and further apart. A harm reduction approach recognizes the likelihood of relapse and encourages ongoing care even when relapse occurs.¹⁷ This requires creating an environment in which women feel safe and do not fear condemnation and criticism when they divulge the occurrence of a relapse.¹⁸

Opioid Replacement Therapy

General benefits

High-quality evidence from the medical literature demonstrates that individuals with opioid dependence are most likely to remain free of relapse to substances of abuse when they receive treatment with opioid replacement therapy.¹⁹ Agents available for use in the United States include methadone and buprenorphine. Both are long-acting opioids that allow a steady serum opioid level without periods of intoxication and withdrawal, thereby decreasing associated health risks. They treat opioid withdrawal and decrease or eliminate drug cravings.²⁰ In doing so, they may help patients avoid dangerous activities associated with drug use, including sharing needles, exchanging sex for drugs, engaging in crimes to obtain money to purchase drugs, and falling victim to violence in the process of obtaining drugs. They also prevent overdose deaths caused by opioids of abuse.²¹ In freeing patients from time spent in activities associated with obtaining and using substances of abuse, they allow time to re-establish focus on healthy goals, such as parenting, education, and employment.¹⁸

Benefits in pregnancy

The specific benefits of opioid replacement therapy in pregnancy include avoiding the cycles of intoxication and withdrawal that are common in those with dependence on short-acting opioids, such as heroin or oxycodone, thereby avoiding the effects of these cycles on the fetus, including preterm delivery, intrauterine growth restriction, and intrauterine fetal demise.²² Opioid replacement therapy is also associated with longer gestation²³ and higher infant birth weight.²⁴

Methadone and buprenorphine

Options for opioid replacement therapy in pregnancy include both methadone and buprenorphine. Methadone is a pure opioid agonist available through federally approved facilities that dispense daily oral liquid doses to patients initially, with the option to provide take-home doses as the period of adherence to the treatment plan lengthens. It is increased slowly over the course of weeks to achieve a therapeutic level and can cause respiratory depression and death if the dose is increased too quickly. Buprenorphine is a mixed opioid agonist-antagonist available by prescription from physicians who have participated in special training and have received a license from the Drug Enforcement Agency to prescribe it. It is administered sublingually when used for opioid replacement therapy. Because of its strong affinity for the opioid receptor but only partial activation of the receptor, patients must be in at least moderate

opioid withdrawal at the time it is initiated to avoid precipitated opioid withdrawal (i.e. buprenorphine displaces other opioids from the opioid receptor but does not activate the receptor as completely as pure opioid agonists, thus causing opioid withdrawal in opioid dependent individuals whose receptors are still “filled” with another opioid). Once the patient enters moderate opioid withdrawal, an initial dose of buprenorphine is given, symptoms are monitored, and additional doses are given every few hours in order to control withdrawal symptoms and opioid cravings. A therapeutic dose is generally reached in 24 hours or less. In adults, buprenorphine shows a ceiling effect with respect to respiratory depression that reduces the risk of overdose death.²⁵

Use of opioid replacement therapy should continue throughout pregnancy and for at least several months postpartum to reduce risk of relapse.²⁶ Many patients are best treated with long-term maintenance of opioid replacement therapy over the course of several years due to a history of relapse during prior attempts at weaning or discontinuing medication.²⁷ Clinicians who provide prenatal care and are not licensed and trained to prescribe buprenorphine in pregnancy can establish collaborative relationships with those who manage opioid replacement therapy to facilitate care.

For pregnant women with significant opioid dependence, weaning opioids or quitting use abruptly to achieve abstinence is not recommended, because opioid withdrawal may increase the risk of miscarriage, preterm labor, fetal distress, and intra-uterine fetal demise and most commonly results in relapse.²⁸ Some women may decline opioid replacement therapy or may not have access to it due to their geographic location remote from trained providers of this service. A recent retrospective cohort study of 95 women who chose detoxification from opioids and underwent an inpatient methadone wean showed a 56% success rate when defined as no maternal illicit opioid use at the time of delivery as determined by maternal report, maternal urine drug toxicology, or newborn meconium toxicology.²⁹ Information was not provided in this study regarding longer-term outcomes of women and their infants. Medically supervised opioid detoxification can be considered in select and highly motivated pregnant patients, but is associated with a high rate of relapse to opioids of abuse.

All opioids, including opioid replacement therapies, cause slower gastrointestinal motility, resulting in significant constipation for many patients.³⁰ Women may discontinue use of prenatal vitamins due to the additional constipating effect of the iron contained in them, and appetite can be poor in those with chronic constipation. Patients may be reluctant to discuss this problem with their prenatal care provider, although it is usually readily treated with twice-daily use of stool softeners, such as docusate, plus osmotic agents, such as polyethylene glycol, when needed. Clinicians should inquire about constipation symptoms when caring for women with opioid dependence.³¹

Neonatal abstinence syndrome

Women should be informed that infants exposed to opioids in utero, whether substances of abuse or opioid replacement therapy, require observation and treatment, if indicated, for NAS. Newborns are observed for 3 to 7 days for development of NAS, and those who require pharmacologic treatment are generally administered oral morphine or methadone (although other agents are sometimes used).³² Once a dose is achieved that effectively ameliorates signs and symptoms of opioid withdrawal, the dose is weaned over several days and then discontinued, with a period of observation after the last dose to assure clinical stability. Infants of women who are treated with buprenorphine may have less risk of requiring pharmacologic treatment of NAS, and treatment periods may be shorter in duration.³³

Counseling and Support

A key component of substance abuse treatment includes counseling. Where possible, this is best provided by individuals with specialized training in treatment of substance abuse. Counselors and substance abuse treatment programs may use a variety of techniques, including motivational interviewing, identification of triggers for relapse, stress reduction education, meditation, cognitive behavioral therapy, positive reinforcement of abstinence, contingency management, and support groups.³⁴ Alternative therapies, such as acupuncture, may also be offered. Patients may be encouraged to develop a new social network to avoid contact with acquaintances, friends, and family members who continue in the drug lifestyle.

Evaluation and Treatment of Associated Health Conditions

Women with substance abuse disorders often suffer from a lack of general health care prior to the pregnancy.³⁵ They may have higher risks for certain health conditions and diseases, including tobacco use, sexually transmitted infections (STIs), hepatitis C, and HIV.²⁶ Dental health may be neglected during periods of active drug use.³⁶ Underlying mental health disorders, such as depression, anxiety, posttraumatic stress disorder (PTSD), bipolar disorder, schizophrenia, and personality disorders, may go undiagnosed or untreated.

Tobacco addiction

Use of tobacco in pregnancy is associated with increased risk of ectopic gestation, abnormal placentation, intrauterine growth restriction, preterm delivery, and sudden infant death syndrome.³⁷ Although clinicians understandably focus significant attention on discontinuation of illicit substances and alcohol in pregnancy, smoking cessation is an important goal. Nicotine replacement products may be considered, although concerns exist about their use in pregnancy.³⁸ Helping women identify triggers for smoking, setting a quit date, encouraging partners to stop smoking, and offering positive reinforcement for efforts to decrease use are all appropriate measures.^{39,40}

Sexually transmitted infections and hepatitis C

In addition to standard prenatal laboratory studies, including STI testing, screening for the hepatitis C antibody should be performed. Those who test positive for the hepatitis C antibody should have polymerase chain reaction testing to evaluate viral load and liver function tests to assess for evidence of liver inflammation/injury. Elevated transaminases can be followed serially, and any evidence for worsening while on buprenorphine for opioid replacement therapy should be noted and therapy altered if indicated.²⁷ Acetaminophen, although generally considered safe in pregnancy, should be used sparingly by those with underlying liver disease; although definitive studies are lacking, a maximum of 2000 mg per day is thought safe.⁴¹ Consideration should be given for repeating STI and hepatitis C screening in the third trimester, depending on relapse to substances of abuse and/or other risk factors.²²

Dental disease

An oral examination may identify obvious caries or periodontal disease, and dental referral can facilitate routine cleanings to maintain dental health during pregnancy as well as address active disease. A letter from a referring clinician outlining acceptable dental care in pregnancy may reassure dental professionals of the appropriateness of proceeding with treatment when indicated.⁴²

Psychiatric disorders

Brief self-administered mental health surveys, such as the Patient Health Questionnaire (PHQ-9) for depression and the Mood Disorder Questionnaire (MDQ) for bipolar disorder, are designed for screening purposes and can be used in the prenatal care setting.⁴³ Women with a self-reported history or who screen positive for mental health disorders require further assessment. Active use of substances of abuse may interfere with assessment of psychiatric disorders; therefore, a period of stability on opioid replacement therapy or abstinence from stimulants and/or other psychoactive drugs may be needed prior to verification of underlying psychiatric diagnoses.²⁶ Anxiety and PTSD are also prevalent among women with substance abuse disorders. When psychiatric disorders are found, discussion of treatment options should be undertaken, and the use of pharmacologic treatments should not be withheld simply because of pregnancy. After adequate patient counseling about risks and benefits of pharmacologic treatment, some medications may be appropriate for the prenatal care provider to prescribe without further consultation with a psychiatric professional, including serotonin reuptake inhibitors for depression and sedating antihistamines, such as hydroxyzine for anxiety.⁴⁴ Care should be taken to discuss any new medications with providers managing opioid replacement therapy to ensure safety in combination. Decisions regarding treatment with mood stabilizers and antipsychotics are less likely to be undertaken by prenatal care providers without psychiatric consultation.

Environmental stressors

Assessment of social and environmental stressors is indicated for all pregnancies; however, women with substance abuse disorders may be at higher risk for these problems. Screening for issues such as intimate partner violence, homelessness, and food insecurity, should be performed routinely on initial presentation, periodically over the course of prenatal care, and when changes in social circumstances occur. These assessments are best performed privately and confidentially²⁶ and are facilitated by routinely asking family members and partners to leave the examination room for a period of time at each visit, thus normalizing the practice. Women who do not have a safe and supportive living environment that is free of substance abuse and other dangers or who require more intensive management may be helped by residential treatment.⁴⁵ Ideally, these programs provide housing, case management, substance abuse counseling, group therapy, and parenting education and support.

Anticipating Absences from Care

Late presentation to prenatal care may stem from fear of seeking care, a chaotic lifestyle associated with active drug use, transportation and child care issues, and controlling or abusive partners.⁹ Flexibility in appointment scheduling, including the ability to see women for care on short notice and the willingness to see them despite late arrivals for appointments, can facilitate entry into substance abuse treatment and more complete prenatal care.⁴⁶ Anticipating the possibility of fewer total prenatal care appointments or future missed appointments allows clinicians to prioritize important assessments. For example, a brief ultrasound in the office for confirmation of pregnancy dating at the initial visit can provide information crucial for later medical decision making in the event that a patient is subsequently absent from care for a prolonged period of time.

Assessing Fetal Well-Being

Although opioid replacement therapy is associated with improved pregnancy outcomes in women with opioid dependence, some evidence suggests lower birth

weights for infants exposed to methadone in utero. Similar trends have not been noted for buprenorphine use in pregnancy.⁴⁷ Careful assessment of fetal growth via serial fundal height measurements is indicated. Although evidence is lacking, consideration can be given for ultrasound assessment of fetal growth, for example, at 28 and 34 weeks' gestational age. Ongoing use of substances of abuse, in particular stimulants, is associated with an increased risk of intrauterine growth restriction and perinatal death.^{48–51} One approach is to institute weekly fetal heart rate monitoring at 32 weeks' gestational age for women with ongoing use of stimulants⁵² and to consider induction of labor at 38 weeks' gestational age, balancing risks of induction with risks of continued stimulant exposure.

Supporting Preparation for Parenting

By accessing prenatal care and disclosing substance abuse, women are taking the first of many potential steps toward improving their health and investing in the health of their children and families. The courage required to do so is particularly striking in cases of women who have grown up in families afflicted by generations of substance abuse.⁵³ They may be motivated by their own experiences of neglect or abuse in their families of origin or by experiences as children in the foster care system but may have few examples of healthy parenting to emulate as they raise their own children. Assistance in preparing for parenthood is key for women and their partners in these circumstances, and referrals to educational programs should be provided.⁵⁴ Preparation for parenting also includes education regarding NAS and its diagnosis and treatment, including expected length of hospital stay for the infant.

BRIEF OVERVIEW OF INTRAPARTUM MANAGEMENT

Labor management for women with substance abuse does not differ greatly from routine care. Continuous fetal heart rate monitoring can be considered due to uncertain effects of previous substance exposures on the ability of the fetus to tolerate labor. Baseline fetal heart rate may be lower in women who are treated with methadone and decreased reactivity may be noted for 2 to 3 hours after a methadone dose; this effect is less prominent in women treated with buprenorphine.⁵⁵

The use of a fetal scalp electrode for fetal heart rate monitoring should be avoided if possible in women with hepatitis C, although a recent systematic review was inconclusive on the relationship to vertical transmission of hepatitis C.⁵⁶ The use of internal fetal monitoring should also be avoided in patients with HIV.⁵⁷

Women may present for the first time in labor without previous prenatal care, and opioid-dependent women may exhibit opioid withdrawal during this time. Methadone or buprenorphine can be initiated during labor, although buprenorphine must be dosed at a therapeutic level before other opioids are used for pain control in this situation due to risk of precipitated withdrawal if buprenorphine is initiated while opioid withdrawal symptoms are mitigated by other opioid pain medications.

Opioid replacement therapy should be continued during labor, including giving any doses that are due during that time.⁵⁸ Although intravenous opioids at typical doses may be less-effective labor analgesia for women on opioid replacement therapy, pure opioid agonists are not contraindicated for women on stable doses of methadone or buprenorphine as long as there is no evidence of oversedation in association with their use. Mixed agonist-antagonists, such as nalbuphine, butorphanol, and pentazocine, can precipitate withdrawal in opioid-dependent individuals and should be avoided. Obtaining venous access in patients with a history of intravenous substance abuse can be challenging and may require additional time and/or advanced

techniques. Epidural anesthesia is a good choice if pharmacologic pain management is desired. Patients undergoing scheduled cesarean section should continue opioid replacement therapy, including on the day of delivery. The choice of whether to use long-acting opioids in spinal or epidural anesthetics placed for cesarean section varies among anesthesiologists.⁵⁹

POSTPARTUM MANAGEMENT

Pain Management

Postpartum pain management for patients who deliver vaginally can usually be achieved without the use of opioid pain medications. Non-steroidal anti-inflammatory drugs (NSAIDs) and acetaminophen are typically sufficient. In the immediate postoperative period after cesarean section, higher doses of intravenous or oral opioids may be needed for pain control in women with opioid tolerance.⁵⁹ In women using buprenorphine, this need may be due to the strong affinity but only partial activation of the opioid receptor, thereby limiting access to the receptor for other opioid pain medications.⁵⁹ Opioid-dependent women may also have poorer pain tolerance due to chronic alterations in pain pathways.⁶⁰ Consideration can be given for dividing the usual buprenorphine dose in 4-times-a-day administration to contribute to postoperative pain management.

A reasonable approach is to allow for higher and/or more frequent doses of oral opioids in the early postoperative period; provide prescriptions at the time of hospital discharge balancing this need and the expectation of decreased use by the end of the first postoperative week; and schedule an early postpartum clinic visit for 7 to 10 days after discharge from the hospital. Appropriate use of NSAIDs and acetaminophen should be emphasized during the postoperative period. Explicit discussion with patients of postoperative pain management plans helps clarify expectations and ameliorate fears of inadequate pain control.⁶⁰

Preventing Relapse

The postpartum period is a high-risk time for relapse to substances of abuse, perhaps in part because use is no longer inhibited by maternal concerns about exposure of the fetus but also likely related to increased stress levels caused by sleep deprivation, hormonal changes, and the demands of parenting. Postpartum depression, which occurs more frequently among women with substance abuse disorders,⁶¹ may be another risk factor for relapse.⁶² Close follow-up, including an early postpartum clinic visit at 1 to 2 weeks after delivery, is recommended. At this visit, a formal assessment for postpartum depression, such as the Edinburgh Postnatal Depression Scale, can be administered, and clinicians should ask directly about drug cravings and relapse to substances of abuse.

Breastfeeding Guidance

Both methadone and buprenorphine are acceptable for use in breastfeeding mothers.⁶³ The amount of both drugs present in breast milk is considered unlikely to produce adverse effects in the newborn^{64,65} but also unlikely to prevent or treat NAS. The act of breastfeeding and skin-to-skin contact with mother, however, may diminish some symptoms of NAS.^{66,67} Breastfeeding may be a motivating factor for mothers in maintaining abstinence from substances of abuse and is shown to improve maternal-infant bonding. Many women, as well as their partners and families, erroneously assume that they cannot breastfeed while on opioid replacement therapy, and proper education during the prenatal period is indicated to dispel this myth and

convey the benefits of breastfeeding. Similar beliefs exist among patients and their family members regarding hepatitis C, although this is not a contraindication to breastfeeding⁵⁶ unless nipples are cracked and bleeding. In this case, milk should be expressed and discarded until the cracked nipples have healed, and then breastfeeding should resume. Women who have not achieved abstinence from substances of abuse, in particular those with ongoing use of stimulants and/or alcohol, should be discouraged from breastfeeding due to risk of infant exposure via breast milk.⁶³ HIV is a contraindication to breastfeeding in the United States due to risk of HIV transmission to the newborn and availability of other appropriate nutritional sources for infants.⁶⁸

Newborn Developmental Assessment and Support

Families who are in recovery from substance abuse require additional support to assure stability and ongoing ability to parent. Provision of comprehensive pediatric care and case management with emphasis on developmental assessment and support are key. Programs that integrate prenatal care, substance abuse treatment, case management, child development support, and primary care for families after delivery may facilitate greater ongoing participation and trust.^{69,70} When integrated care is not available, developing collaborative relationships with pediatric care providers can facilitate better transition and communication surrounding potential developmental issues in the substance-exposed newborn. Parenting classes and support groups provide opportunities for families to share knowledge and experience.⁷¹

Postpartum Contraception

Postpartum contraceptive plans should be addressed during the prenatal care period.⁷² Unless permanent sterilization is desired, long-acting reversible contraception should be encouraged because of the low likelihood of failure and high patient satisfaction, just as among women without substance abuse histories.⁷³ Immediate post-placental intrauterine device (IUD) insertion is acceptable to women⁷⁴ and safe,⁷⁵ and eliminates the barriers related to the need to return to an outpatient setting for IUD insertion at six weeks postpartum.⁷⁶

Transition to Primary Care

Access to primary care is important for all women and perhaps more crucial for women with physical and mental health issues related to past substance abuse.³⁵ Encouraging women to seek appropriate primary care, whether by continuing visits with the current provider or transitioning to another nonobstetric provider, is an important message after delivery or pregnancy loss or termination. Pregnancy often serves as an entry point to health care for women and the opportunity to engage women in comprehensive, ongoing care should not be lost. For obstetric providers who do not provide comprehensive primary care, developing a referral relationship with a clinician who can do so and who is able to demonstrate respect and compassion for women affected by substance abuse can facilitate a smooth transition of care.

SUMMARY

Optimal care of women with substance abuse disorders in pregnancy requires a multidisciplinary approach (**Table 1**) that emphasizes respect, compassion, and flexibility. Pregnancy often serves as an opportunity for women to engage in healthy change.

Table 1
Key aspects of care for pregnant women with substance use disorders

Prenatal	
Pregnancy options counseling	Parenting, adoption, abortion
Substance abuse history	Substance(s), route, duration, withdrawal symptoms
Patient education	Effects of substances on pregnancy Postpartum contraception Breastfeeding Labor analgesia Preparation for parenting
Substance abuse counseling	Consideration for residential treatment
Harm reduction	Respectful, nonjudgmental approach Flexible scheduling Anticipate relapses
Opioid replacement therapy	Methadone or buprenorphine
Assessment and treatment of comorbidities	Medical: tobacco use, STIs, hepatitis C, dental disease Psychiatric: depression, bipolar disorder, anxiety, PTSD Environmental: intimate partner violence, homelessness, food insecurity
Fetal well-being	Serial fundal heights, selective use of ultrasound for growth and fetal surveillance
Intrapartum	
Opioid replacement therapy	Continue in labor Continue on day of scheduled cesarean section
Labor analgesia	Epidural is effective Parenteral pure opioid agonists are acceptable Avoid mixed agonist-antagonists in opioid-dependent women
Fetal heart rate monitoring	Avoid internal monitors in hepatitis C and HIV
Postpartum	
Postpartum pain management	Higher opioid dose requirements postoperatively in opioid-dependent women Can divide buprenorphine QID Appropriate NSAIDs and acetaminophen
Relapse prevention	Close follow-up Screen for depression Ask about drug cravings and relapse
Breastfeeding guidance	Stable patients on opioid replacement Hepatitis C acceptable (if no cracked/bleeding nipples) Contraindicated in active substance abuse and HIV
Contraceptive management	Sterilization if desired by patient Otherwise encourage long-acting reversible contraception Offer immediate post-placental IUD insertion
Transition to primary care	Pediatric developmental assessment and support Adult primary care

Although there are many challenges for clinicians and barriers to care for patients, successful treatment of substance abuse in pregnancy offers a chance to improve the lives of generations to come by helping women deliver and parent healthier children and by interrupting the legacy of addiction and family dysfunction inherited by so many women and their families.

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