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Substance Use In Pregnancy

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Continuing Education Activity

Substance use disorder (SUD) in pregnancy is a growing concern in the United States. Patients with substance use disorders in the peripartum period face unique barriers to care, and have unique co-morbidities. This activity reviews the evaluation and management of the most common substance use disorders in pregnancy. Additionally, this activity reviews co-morbidities commonly associated with substance use disorders in pregnancy and highlights the role of interprofessional teams in caring for this patient population.

Objectives:

- Identify the etiology of substance use disorders in pregnancy.
- Describe how to evaluate for substance use disorders in pregnancy.
- Outline the management options available for the most common substance use disorders in peripartum females.
- Explain interprofessional team strategies for improving care coordination and communication to educate patients and professionals about substance use disorders in pregnancy and improve outcomes.

Introduction

Substance use disorders (SUDs) can have a devastating impact on individuals, families, and communities. SUDs occur when recurrent alcohol or illicit drug use causes clinically significant impairment, including health problems, disability, and failure to meet primary responsibilities at work, school, or home. The lifetime prevalence rates of alcohol use disorder (AUD) and drug use disorders in women are 19.5% and 7.1%, respectively.[\[1\]](#)

Women are at their highest risk of developing a substance use disorder between ages 18 to 29 years old and are at increased risk throughout their reproductive years (18 to 44). Pregnant females and soon to become pregnant females are therefore at increased risk of substance use. Prenatal substance use correlates with several harmful consequences for mother and fetus. Tobacco is the most common substance used during pregnancy, followed by alcohol, cannabis, and other illicit substances. Population-based National Survey of Drug Use and Health (NSDUH) between 2005 and 2014 studied 80498 adolescent (ages 12 to 17 years) and 152043 adult (ages 18 to 44 years) females. Rates of past-month use of tobacco were 23.0% in adolescent and 14.9% in adult females. Rates of past-month alcohol use were 11.5% in adolescent and 8.7% in adult females.[\[2\]](#)

There is a recent increase in opiate use nationally in the general population, as well as in pregnancy, with a reported five-fold increase in pregnancy opioid use between 2000 and 2009. [\[3\]](#) Between 2008 and 2012, amongst females of reproductive age, 39.4% of patients with Medicaid, and 27.7% of patients with private insurance filled an outpatient opioid prescription each year. Among the evaluation of over 1 million pregnant women with Medicaid, 21.6% filled a prescription for an opioid, and 2.5% of pregnant women received more than a one month supply of chronic opioid medication. Among those admitted to substance use treatment facilities for treatment of opioid use, the rate of pregnant females seeking treatment rose from 2% to 28% between 1992 and 2012.[\[4\]](#)

Additionally, polysubstance use is common in pregnancy and often found with psychiatric comorbidities. In population-based National Survey of Drug Use and Health (NSDUH) studying pregnant and non-pregnant adolescent and adult females, results showed that compared to pregnant abstainers, pregnant women engaging in alcohol and/or tobacco use were more likely to have experienced a major depressive episode in the last 12 months.[\[2\]](#) Furthermore, environmental stressors and inconsistent prenatal care contribute to worsening maternal and fetal outcomes.[\[3\]](#)

It is widely accepted and understood that substance use is discouraged in pregnancy, and women are encouraged to seek abstinence while pregnant. Even for women who achieve and maintain abstinence while pregnant, postpartum substance use relapse is common within the first 6 to 12 months after delivery. This period coincides with the time when childcare needs are highest, and infant development is reliant on maternal attention and bonding.[\[4\]](#)

Females are not only at the highest risk of substance use disorders during reproductive years, but rates of mental health problems are also most prevalent while women are of childbearing age. With knowledge of the adverse effects for mother and fetus that result from peripartum mental illness, the World Health Organization recommends engaging women in improving their mental health before becoming pregnant. As studies reveal almost half of all pregnancies are unplanned, it is crucial to expand preconception care beyond the confines of those planning to conceive. Earlier treatment and diagnosis of mental illness in women of childbearing age can assist women in achieving emotional and psychiatric stability before becoming pregnant, and therefore reducing negative mother and fetus outcomes.[\[5\]](#)

Furthermore, perinatal substance use correlates with severe psychiatric and medical morbidity for peripartum women and their newborns. In populations where pregnancy and substance use disorders coincide, patients frequently do not receive adequate prenatal care. Patients with a substance use disorder in pregnancy have unique barriers to accessing care, which include transportation, caring for existing children, food and housing insecurity, medical and psychiatric comorbidities, and overall lack of resources.[\[6\]](#) In comprehensive healthcare reform, the need to combine substance use and mental health care is gaining recognition and integration; however, this approach is less frequent in the context of maternity care.[\[7\]](#)

Etiology

The etiology of substance use disorders in pregnancy is multifactorial with environmental and genetic factors contributing to these disorders. Studies have investigated the mechanism underlying the vulnerability of specific individuals for developing substance use disorders. One hypothesis relevant to the topic of substance use disorders in pregnancy is the relationship of prenatal stress on a fetus, which has links to higher rates of poor stress management and behavioral problems in childhood and adulthood. Difficulties with stress management as well as behavioral problems both increase one's risk of developing substance use disorders. Furthermore, mesocorticolimbic dopaminergic pathway dysfunction is often present in both prenatally stressed and substance use disorder individuals.[\[8\]](#)

Several recent studies have aimed at better understanding and identifying genetic and environmental factors contributing to rates of substance use disorders. With a better understanding of causative factors, there is potential for more targeted and effective treatment. Patient-Reported Outcome Measures (PROM) studies investigating gene-environment correlation recognize that alcohol use is higher in urban environments, migration communities, and communities with higher proportions of older adolescents and young adults.[\[9\]](#) Additional identified risk factors for the development of SUD include black, native-Americans, and mixed-race individuals, lower levels of education, and co-occurring psychiatric illness.[\[10\]](#)

Epidemiology

In a female's lifetime, she is most likely to develop a substance use disorder during her child-bearing years, between the ages of 18 and 44 years old.[\[11\]](#) This situation is especially significant as research evidence shows that in females of childbearing age who have substance use disorders, the unintended pregnancy rate is approximately 80%.[\[4\]](#) Among the different substance use disorders, rates of opioid use disorder have garnered increased attention in recent years. The incidence of opioid use disorder during pregnancy more than doubled between the years of 1998 and 2011, and rates continue to rise. Women ages 15 to 44 years old who reported nonmedical use of narcotics within the past one month increased 5.4% from 2011 to 2012. Additionally, rates of women of child-bearing age reporting heroin use in the past one month increased by 31% from 2011 to 2012.[\[12\]](#)

According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA), between 1979 and 2006, reported rates of binge drinking in women ages 18 to 23 increased by 30%.[\[13\]](#) The Center for Disease Control and Prevention (CDC) sought to estimate the prevalence of alcohol use and binge drinking over the past 30 days among women of childbearing age, 18 to 44 years; they did this through the evaluation of the 2006 to 2010 Behavioral Risk Factor Surveillance System (BRFSS) data. With self-reporting participants, 51.5% of nonpregnant women reported using alcohol, and 7.6% of pregnant women reported alcohol use. In the researched population of pregnant women, the highest prevalence of reported alcohol use existed in women ages 35 to 44 years at 14.3%. The rate of alcohol use in pregnant women who were also college graduates was 10.0%, who were also White was 8.3%, and who were also employed was 9.6%.[\[14\]](#)

Pathophysiology

In genetic epidemiological studies regarding alcohol, nicotine, cannabis, cocaine, and opioid use, initial drug reward/saliency is primarily influenced by the prefrontal cortex projection of midbrain dopamine neurons, as well as in the dorsal and ventral striatum. Additionally, rewarding stimuli response is encoded by ascending monoamine fibers such as norepinephrine.[\[9\]](#)

A well-studied risk factor for developing alcohol use disorder is a family member with a history of SUD. In family studies, evidence shows that SUD often clusters within families, which implies both environmental and genetic factors influence the risk of developing SUD. Genetic association studies have highlighted the importance of genes related to the processing of alcohol metabolites, alcohol metabolism, and neurotransmission pathways involved with stimulus-reward processing in the brain, including glutamatergic and dopaminergic pathways. With cocaine, rewarding properties of cocaine are predominantly associated with blockade of cell surface dopamine transporters.[\[9\]](#)

History and Physical

Substance use disorders involve recurrent alcohol or drug use, which causes clinically significant impairment. These impairments can include physical health problems, failure to meet responsibilities in one's home, school, or work settings, criminal charges, and much more. Substance use disorders may range from mild use with minimal symptoms to more severe states of chronic use.

According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), categories of substance use disorders include alcohol, caffeine, cannabis, hallucinogen, inhalant, opioid, sedative-hypnotic or anxiolytic, stimulant, tobacco, and other or unknown substance-related disorders. The criteria for a diagnosis of a substance use disorder according to the DSM-V, requires 2 or more symptoms, occurring within 12 months.[\[15\]](#)

Symptoms may include taking substances over a more extended time period and/or in larger amounts than intended, experiencing persistent desire with unsuccessful efforts to minimize substance use, and spending a significant amount of time seeking, using, and recovering from the effects of the substance. Additional symptoms include craving the substance, recurrent substance use impairing obligations of everyday life, continuing substance use despite recurring social or interpersonal problems related to substance use, and minimizing or eliminating activities and responsibilities of everyday life because of substance use. Furthermore, symptoms may include using substances recurrently in physically hazardous situations, continued substance use even in light of the knowledge of recurring or persistent physical or psychological problems related to substance use, tolerance, and experience of withdrawal symptoms. Specifically for opioid use disorder, an additional specifier "on maintenance therapy" is possible. At least two symptoms are necessary for the diagnosis of a substance use disorder. Further specifiers include mild, moderate, and severe disorders where mild SUD has 2 or 3 symptoms present, moderate has 4 or 5 symptoms present, and severe has 6 or more symptoms present.[\[15\]](#)

Evaluation of substance use disorders in pregnancy begins with inquiries of substance use before conception and regular screening for substance use throughout pregnancy. Screening tools can be helpful for a standardized inquiry performed during each visit. American College of Obstetricians and Gynecologists (ACOG) recommends using validated tools and questionnaires to assist evaluation. These include 4Ps, NIDA Quick Screen, and CRAFFT designed especially for females younger than 26 years old.[\[4\]](#)

Evaluation

Diagnosis of substance use disorders in pregnancy has a basis on history and physical findings, with laboratory studies also providing useful information. The American College of Obstetricians and Gynecologists (ACOG) and the American Society of Addiction Medicine (ASAM) recommend screening for substance use in pregnancy at the first visit in partnership with a pregnant woman. Traditionally, screening for SUD in pregnancy was limited to patients with associated risk factors, such as prior adverse pregnancy outcomes or inadequate prenatal care. Limiting screening to these populations led to not only missed cases but also contributed to stereotyping and stigma. Standardized screening tools for diagnosing substance use disorders in pregnancy help clinicians of various specialties feel equipped to explore the scope of a patient's substance use. These validated screening tools include 4Ps, NIDA Quick Screen, and CRAFFT specifically for women younger than 26 years old.[\[4\]](#)

Additional laboratory tests to further assist evaluation include, but are not limited to:

- Urine drug screen

- Blood ethanol level
- Buprenorphine/norbuprenorphine fraction – for opioid agonist therapy compliance
- Carbohydrate-deficient transferrin (CDT) - most useful for long term alcohol abstinence monitoring
- Hepatitis panel
- TSH, Free T4
- HIV screening
- STI testing
- Additional fetal ultrasounds to assess fetal weights if concern for fetal growth abnormalities
- Evaluation of alcohol use disorder in pregnancy

Screening for alcohol use disorder in pregnancy is the current recommendation with regular prenatal visits. Screening tools with empirical validation such as Cut Down, Annoyed, Guilty and Eye Opener (CAGE) and Alcohol Use Disorders Identification Test (AUDIT) are effective in identifying alcohol use disorder in both pregnant and non-pregnant patients. These screening tools were not designed specifically for pregnant females, and therefore, could miss cut-offs for problematic drinking being broader screening tools. The T-ACE/T-ACER-3 have both been empirically validated for use in pregnant women and are recommended by ACOG as well as by the National Institute on Alcohol Abuse and Alcoholism. With pregnant females in mind, an obstetrician developed T-ACE with three questions assessing a patient's annoyance with criticism of her drinking, her requirement of eye-openers, and her alcohol tolerance. The T-ACER-3 followed later, which includes the same questions, but positive testing cut-off increased from 2 to 3 points, which decreased false positives without compromising sensitivity.[\[16\]](#)

Evaluation of Alcohol Withdrawal:

Alcohol withdrawal syndrome is dangerous and potentially life-threatening. Patients with alcohol use disorder should seek inpatient treatment for detoxification from alcohol as untreated symptoms can result in alcohol withdrawal seizures and potentially fatal delirium tremens (DTs). Widely used management for alcohol withdrawal today includes the use of the Clinical Institute Withdrawal Assessment for Alcohol (CIWA) tool. It provides a scoring system for typical alcohol withdrawal symptoms and creates a symptom-triggered treatment protocol. Symptoms assessed with CIWA include visual, auditory and tactile disturbances, tremors, sweating, headache, nausea and/or vomiting, agitation, anxiety, and lastly orientation.[\[17\]](#) Patients with clinically significant alcohol withdrawal symptoms, concerning for risk of developing alcohol withdrawal seizures or DTs should be admitted inpatient for monitored detoxification.

Evaluation for Opioid Withdrawal:

Patients with significant opioid use disorder experience opioid withdrawal symptoms when abstaining from opioid use. These symptoms include gastrointestinal discomfort, muscle cramps, sweating, anxiety, insomnia, hyperalgesia, and are commonly appear as flu-like symptoms. Depending on the opioid half-life of the substance used, presentation of opioid withdrawal symptoms typically occurs between 8 to 48 hours following the last opioid dose. Unfortunately, opioid withdrawal symptoms are well-studied as motivating factors for continued opioid use, both in prescription and off-label/nonprescription opioid users.[\[18\]](#) Recommendations differ for the management of opioid withdrawal in pregnant patients as compared with the general population and are outlined further below.

Evaluation of Perinatal Depression:

During the evaluation of females throughout pregnancy, both with and without substance use disorders, it is recommended to routinely screen pregnant and postpartum women for depression. Direct evidence, studied and reported on by the United States Preventive Services Task Force (USPTF), suggests screening pregnant and postpartum women for depression may reduce depressive symptoms in women and reduce the prevalence of depression in a given population. Even in settings where there is a lack of specialty treatment resources such as treatment protocols, care management, and availability of specially trained psychiatric clinicians, evidence still supports screening for depression in pregnant and postpartum women.[\[19\]](#)

ACOG, in its most recent committee opinion, recognizes that screening alone for perinatal depression can have clinical benefits, with maximal benefit achieved with the initiation of treatment or referral to mental health providers. Edinburgh Postnatal Depression Scale (EPDS) is well-studied in research settings and has been translated into 50 different languages, with ten self-reported questions that are health literacy appropriate.[\[20\]](#)

Treatment / Management

Behavioral counseling is a modality of treatment to consider in pregnant patients with substance use disorders. Motivational interviewing and cognitive behavioral therapy are common forms of for patients with substance use disorders.

Opioid Use Disorder Treatment:

According to the American College of Obstetricians and Gynecology (ACOG) and American Society of Addiction Medicine (ASAM), the evidence-based recommendation is for patients who are pregnant with opioid use disorder to be on opioid agonist therapy. Opioid agonist therapy is preferred even over medically supervised withdrawal, as opioid withdrawal has been shown to increase the risk of relapse and worsen maternal and fetal outcomes. More specifically, opioid withdrawal can lead to fetal stress and even fetal death. When patients, both pregnant and non-pregnant, experience cravings and temptation for non-medical opioid use, they introduce an increased risk of infection, unsafe practices, reckless decision-making, and even respiratory distress and death by resulting opioid overdose. Studies have revealed that opioid agonist therapy in pregnant patients with opioid use disorder results in reduced rates of relapses, improved adherence to prenatal care and addiction treatment programs.[\[4\]](#)

For patients receiving opioid agonist therapy in pregnancy, it is reasonable to consider additional elements of prenatal care. These can include but are not limited to expanded STI testing, additional ultrasounds for fetal weight measurements, and consulting psychiatric and substance use providers and therapists. The recommendation mutually agreed upon by ASAM and ACOG in the postpartum period is to continue patients on opioid agonists. The postpartum period is a time of increased stress, decreased sleep, and resiliency for mothers, and evidence reveals postpartum relapses occur more frequently than antepartum. Norbuprenorphine is especially significant clinically as much of infant development depends on maternal care in the months immediately following delivery.[\[4\]](#)

For several years, methadone was the only well-studied opioid agonist therapy in pregnancy for patients with opioid use disorder. Today, both methadone and buprenorphine are well-studied opioid agonist options in pregnancy, with differing benefits, limitations, and adverse effects. When considering treatment options for opioid use disorder in pregnancy, it is also crucial to eye-openers program availability, availability of a comprehensive treatment program, and patient preference.

Specifically for methadone, increased doses are required with advancing gestation as medication clearance increases and half-life shortens. It is appropriate to consider split dosing for patients in the third trimester. [\[12\]](#) Methadone requires daily administration, which is challenging for patients with limited transportation access, or additional factors such as other small children in the home. Additionally, in the immediate postpartum period when newborn care is demanding of maternal energy and resources, regular methadone compliance could prove challenging. Because methadone is a dispensed medication, most treatment programs require daily visits to a treatment location to obtain a daily dose of the drug. Unlike methadone, buprenorphine can be prescribed for up to 30 days, allowing patients increased flexibility and control of their treatment. Both methadone and buprenorphine can lead to the development of neonatal abstinence syndrome (NAS) in the newborn, but buprenorphine has correlations with less severe NAS. Buprenorphine induces fewer drug interactions than methadone but has resulted in rare reports of hepatic dysfunction. Given the fact that buprenorphine is prescribable for 30 days, it has a higher risk of diversion. Lastly, methadone has been used and studied for several more years in pregnancy, and as a result, buprenorphine has less long-term data on infant and child effects.[\[4\]](#)

NAS (Neonatal Abstinence Syndrome)

NAS presents in 30 to 80% of infants who are born to mothers taking opioid agonist therapies. For mothers on methadone, NAS most often presents within the first 72 hours of a newborn's life and lasts several days up to 2 weeks typically. For mothers on buprenorphine, newborns develop symptoms of NAS within 12 to 48 hours following delivery, but symptoms typically resolve within seven days. Symptoms of NAS in newborns include GI distress, autonomic instability, CNS effects resulting in irritability, high-pitched cry, poor sleep, and poor feeding worsened by uncoordinated suckling reflexes.[\[4\]](#)

Studies have revealed that breastfeeding is a useful tool to reduce NAS severity in opioid-exposed newborns. Additionally, there is ongoing research investigating breastfeeding's potential as a protective factor in the prevention of postpartum opioid relapse.[\[3\]](#) American Academy of Pediatrics recommends breastfeeding regardless of methadone or buprenorphine dosing.[\[4\]](#) Although breastfeeding is beneficial for mother and baby in patients who are stable on opioid agonists, it is important to counsel women to suspend breastfeeding in the event of a return to use. It is critical that clinicians regularly counsel patients on the treatment of return to use and consider prescribing naloxone for overdose prevention.[\[4\]](#)

Naltrexone, an opioid receptor antagonist, is an additional consideration in the treatment of opioid use disorder. Information regarding its use in pregnancy is limited and is outlined further below in the discussion of alcohol use disorder treatment.

Alcohol Use Disorder Treatment:

As with all substance use disorders, patient education is especially crucial for peripartum women as their decisions impact both maternal and fetal health. The adverse effects of alcohol use in pregnancy include increased miscarriage risk, stillbirth and infant mortality, congenital anomalies, low birthweight, small for gestational age, and preterm delivery. Studies have revealed several adverse developmental effects associated with alcohol use in pregnancy such as fetal alcohol spectrum disorders, as well as long-term cognitive and behavioral challenges, executive functioning deficits in childhood, and psychosocial consequences well into adulthood.[\[3\]](#)

For alcohol use disorder in non-pregnant patients, first-line treatment is a combination of evidence-based psychosocial interventions, medication, social services when applicable, and mutual group participation. Although each intervention alone is beneficial, these modalities in combination have the most proven benefit for achieving and sustaining remission. Naltrexone, a nonselective opioid receptor antagonist, blocks euphoric effects of opioids. Naltrexone has availability in both oral and long-acting injectable formulations and is the first-line treatment for alcohol use disorder for patients not on opioid therapy.[\[4\]](#)

Alcohol use disorder treatment recommendations are consistent for pregnant patients as well, except for still ongoing research for best-practice medication recommendations. Research regarding naltrexone use in pregnancy is limited to case reports and small case series. There are reports of normal birth outcomes, but fetal effects remain largely unknown. Ultimately, maternal use of alcohol and opioids has a known detrimental impact for fetal development, and therefore, the benefits of abstinence versus risks of naltrexone's unknown effects must be weighed with each patient.[\[6\]](#)

Differential Diagnosis

A pregnant patient who presents with altered mental status should undergo initial labwork, comprehensive history, and a full physical exam. This workup should include but is not limited to a urine drug screen, ethanol level, fetal ultrasound, urinalysis, CMP, CBC, and vital signs. It is crucial to rule out medical causes of acute mental status change in pregnant patients while also evaluating for substance use disorders. Differential diagnosis includes any medical etiologies for altered mental status, substance intoxication or withdrawal, as well as worsening or new psychiatric illness such as bipolar mania or depression, psychosis, anxiety, depression, and personality disorders.

Prognosis

Prognosis is poor for mother and fetus with perinatal substance use disorder without adequate treatment and is even worse with comorbid psychiatric illness. Currently, there are few existing treatments outside of behavioral

and psychosocial interventions for perinatal substance use. With increasing research and attention to substance use disorder in pregnancy, increasing treatment for prenatal substance use will aim at improving long-term outcomes for both mother and baby.[\[3\]](#)

Complications

Data from the National Survey on Drug Use and Health (NSDUH) is nationally-representative of the United States and is an annually conducted survey. In 2017, it was found that 18.9% of adults in the United States, an estimated 46.6 million people ages 18 years or older experienced mental illness within the past 1 year. Furthermore, 11.2 million United States' adults experienced serious mental illness within the previous 12 months, representing 4.5% of adults in the nation.[\[21\]](#)

NSDUH data found in the year 2017, 18.7 million United States' adults experienced substance use disorder (SUD) within the past 1 year. Furthermore, 8.5 million surveyed adults in the US in 2017 experienced both mental illness and SUD within the previous 12 months. Of these, 3.1 million American adults experienced co-occurring SUD and serious mental illness in the past year. Adults suffering from co-occurring SUD and serious mental illness in 2017 corresponds to 1.3% of American adults ages 18 and older.[\[21\]](#)

Women with substance use often experience inadequate and inconsistent prenatal care, domestic violence, poverty, and malnutrition. Substance use frequently coexists with a co-morbid psychiatric illness which further impacts maternal and fetal outcomes.[\[11\]](#) Data collected in the 2017 NSDUH survey found increased rates of combined violence toward self and others within the past 1 year for individuals with substance use disorders, especially those meeting two or more of the SUD criteria.[\[22\]](#) Interpersonal violence in pregnancy has been linked to complications throughout pregnancy such as bleeding, infection, poor weight gain, as well as adverse pregnancy outcomes of low birthweight, preterm delivery, and even neonatal death.[\[23\]](#)

In the DSM-V, postpartum depression is now classified as “major depressive disorder, with peripartum onset”. The qualifier of peripartum onset requires that symptoms occur during pregnancy or within the first four weeks following delivery.[\[24\]](#) Depression is a mood disorder resulting in loss of interest, anhedonia and overall feeling of sadness. Common features amongst depressive disorders include sadness, feelings of worthlessness and hopelessness, irritability, cognitive issues, somatic symptoms, and suicidal ideations.[\[25\]](#) Postpartum depression rank as the most common complication of childbirth. Postpartum depression has negative impacts on the mother and the fetus, and accounts for 20% of postpartum deaths. Environmental risk factors for postpartum depression include prenatal depression, prenatal anxiety, lack of social support, psychosocial stressors of financial and/or marital stress, adverse life events, and impaired infant-mother interactions. Studied adverse life events include childhood and adulthood sexual abuse, which increased a female's risk of developing postpartum depression threefold.[\[24\]](#)

A longitudinal study aimed at investigating unique symptoms of peripartum depression that may differ from MDD revealed that worry is an enhanced feature of depression in the peripartum period. Additionally, the prominent symptoms of sadness and anhedonia that exist with major depressive disorder are typically less prominent in depression with peripartum onset.[\[26\]](#) Further, pregnant patients who experience substance use disorders commonly have a history of both trauma and mental health disorders. With this complex history, best practice recommendations recognize trauma-informed, gender-specific mental health services as beneficial for the comprehensive care of substance use disorder in pregnancy.[\[6\]](#)

Deterrence and Patient Education

Patient education regarding pregnancy prevention for patients with SUD is crucial, as well as thorough patient education on maternal and fetal effects of SUD in pregnancy. During any healthcare visits for females of childbearing age who experience SUD, the recommendation is that conception counseling and birth control resources be offered to patients. Additionally, providers treating mental illness should always screen for substance use disorders, paying particular attention to females of childbearing age. Patient education is an essential behavioral intervention as well as referrals for counseling and therapy for women with substance use disorders in

pregnancy. It has been well-studied that females with peripartum mental illness and substance use fear they will receive shame, stigma, and repercussions for sharing their symptoms. Providers and medical staff must grow in developing strategies to approach these subjects regularly with patients while eliminating these identified barriers.

Pearls and Other Issues

As discussed earlier, due to alarmingly high rates of unplanned pregnancy in women of childbearing age who experience SUD, it is crucial for conception counseling to occur even before patients report conception planning. With known risk factors to the fetus with substance use disorder in pregnancy, it is highly recommended that all providers treating women of childbearing age with substance use disorders, perform contraceptive counseling regularly.

Specifically, for opioid use disorder patients, patients with long-term opioid exposure experience reduced analgesia, termed tolerance, and increased sensitivity to pain, termed hyperalgesia. Patients on MAT during pregnancy will likely require higher doses of opioid agonist during labor, delivery, and during the postpartum period for pain control. If available, it is appropriate to consider consulting anesthesia during labor and delivery period.[\[12\]](#)

Enhancing Healthcare Team Outcomes

In the annual NSDUH study of national drug use in the United States in 2017, 94.3% of people ages 12 and older who classified as having a substance use disorder, did not believe they needed treatment. The survey further identified respondents who recognized a need for SUD treatment but did not receive treatment. These respondents were then asked to provide reasons for not receiving treatment, to better acknowledge treatment barriers, allowing healthcare teams to address and eliminate barriers. In the 2017 NSDUH data, 39.7% of people reported their lack of readiness to stop using, and 30.3% of people reported having no healthcare coverage and insufficient financial resources to fund treatment. Furthermore, of those who perceived a need for treatment, 20.5% did not receive treatment citing a fear that treatment would negatively impact their occupation. Additionally, 17.2% recognized a need for SUD treatment but did not seek it fearing that treatment would cause others in their community to view them negatively.[\[10\]](#)

Especially challenging barriers in accessing care exist for women with substance use disorders in pregnancy. A unique approach to bridging these gaps in access has been implemented by Dartmouth-Hitchcock Medical Center Perinatal Addiction Treatment Program. This program includes midwifery services in the context of a dedicated addiction treatment program. This model of care provides specialized care for women during pregnant and postpartum periods. This collaborative approach recognizes that the needs and demands of this population are unique and challenging, and has improved access to prenatal care, continuity of care throughout pregnancy and postpartum, and availability of family planning services.[\[7\]](#)

Klaman et al. in a literature review of treating pregnant opioid use disorder patients and their infants recognize questions that warrant future research and attention. Included is consideration of genomics testing as a component of OUD identification and if helpful, how should it be used? Ongoing research should aim at identifying the best methods for supporting women with OUD seeking treatment. Given the potential adverse effects of medication therapies in mother and fetus, what further behavioral interventions are most effective for pregnant and parenting patients with substance use disorders? Furthermore, exploration is necessary for resilience factors that are most likely to improve adverse outcomes.[\[12\]](#)

With knowledge of studied stigmas, frequently associated shame, and fear for women who experience substance use disorders and mental illness in the peripartum period, it is important to realize that the actual incidence of mental illness and substance use in peripartum females may be considerably higher than reported. Some commonly reported fears are incurring legal charges, child protective services involvement, and the threat of losing custody of one's children when admitting symptoms such as thoughts of harm toward self, toward baby, or active substance use. Healthcare providers are tasked with understanding these stigmas and working to reduce barriers for disclosure.

Researchers performed a cross-sectional web-based study of pregnant women and women with young children (under 5 years old), aimed at understanding how women experience stigma with maternal identity. Results showed that women experience various layers of stigma when seeking mental health treatment throughout the peripartum period. These include 1) perceived external stigma based upon a woman's belief about what others perceive about mothers who experience psychiatric illness, 2) internal stigma, how a woman feels about herself when experiencing psychiatric illness, and 3) disclosure stigma, which is a woman's anticipated discrimination if she were to disclose symptoms or diagnosis to others.[\[27\]](#)

A systematic review of women's experience in seeking and receiving interventions for peripartum depression recognized that in the peripartum season, women found it especially difficult to seek and accept support. However, once utilized, evidence showed that women found mental health care valuable and beneficial. The review recommends that clinical services offered to peripartum women should acknowledge and address barriers women face in accessing mental health care. As each woman's circumstances differ, it is crucial for healthcare providers to candidly discuss stigma, fear, and barriers to accessing care with patients. In this context, providers allow patients to feel heard and in control throughout the discussion of intervention recommendations, which has correlations with improved healthcare outcomes and more consistent follow-up.[\[28\]](#)

With concern for legal ramifications, stigma, shame, and simply fear of being perceived as a bad mother, women experiencing substance use disorders and mental illness during the peripartum period frequently shy away from medical treatment. A study investigating perinatal mental illness, stigma, and disclosure found that online forums were well-utilized by women experiencing peripartum mental illness. The results identified that women frequently sought help and community online during overnight hours, when mental health providers are largely unavailable, and when the demands of childcare often interrupt sleep. Online forums were identified as just one possible alternative to traditional psychiatric care models which can provide women with valuable peer support anonymously, thereby decreasing the experience of stigma and shame. Further investigation is warranted into creative offerings for peripartum women to reduce stigma with perinatal mental illness and to decrease barriers to care.[\[27\]](#) Alternative options for care that may decrease barriers and eliminate some aspects of stigma include telepsychiatry, home care visits, online counseling and therapy, and peer support forums.

Substance use in pregnancy requires an interprofessional team approach, including physicians, mental health professionals, specialty-trained psychiatric and neonatal nurses, and pharmacists, all collaborating across disciplines to achieve optimal patient results. [Level 5]

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