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Phoenix



Presented by the Department of OBGYN at Banner University Medical Center – Phoenix

Addiction Medicine: Substance Use Disorder in Obstetrics and Gynecology



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Epidemiology

According to the National Survey on Drug Use and Health (NSDUH) 2019, 10.1 million people, 3.7% of the US population, were misusing opioids with the highest misuse age range of 18-25. While it's significant to note that due to changes in prescribing behaviors, there were also declines in opioid misuse within the age ranges of 12-17 and 18-25 for years 2016-2019. However, once an individual has a use disorder after misuse or chronic use, some individuals seek non prescribed methods of obtaining opioids. The most common illicit substances are fentanyl, heroin, and buprenorphine. The fact that buprenorphine is identified as a substance that is obtained illicitly, highlights those individuals are seeking to be relieved of withdrawal symptoms and there are not enough providers available to obtain prescriptions appropriately. While there is a decrease in alcohol, opioids, and cocaine use there has been an increase in marijuana use in all age groups recently which has led to an increase in cannabis use disorder in most age groups specifically in the age 12-17 group. Methamphetamine use unlike cocaine has increased or remained stable in all age groups. The highest number of users was in the twenty-six or older group at 1.7 million or 0.8% of the total US population. [NSDUH 2019](#)

The NSDUH has identified that illicit drugs, tobacco products, alcohol, marijuana, opioids, and cocaine use per population was 5.8%, 9.6%, 9.5%, 5.4%, 0.4% and 0.2% respectively. The 0.4% opioid and illicit drug use confers

to 8,000 and 120,000 pregnant women. The percentages vary by regions and states. Arizona since 2017 has had over 16,500 verified non-fatal opioid overdose events and 7,500 confirmed opioid deaths.

The neonatal opioid withdrawal syndrome also referred to as neonatal abstinence syndrome has been monitored since 2017 by the Arizona Department of Health Services, ADHS has provided education opioid use disorder and management for of newborns born to mothers with opioid use disorders. [AZDHS opioid dashboard](#)

Neurobiology of addiction

Many neurobiological circuits are involved and many neuroadaptations occur with addiction as defined by the three stages of the addiction cycle that drive drug-seeking behavior (Fig. 1). The three cycles are Binge/Intoxication, Withdrawal/Negative affect, and Preoccupation/Anticipation. The ventral striatum/dorsal striatum are activated in the binge intoxication stage. In the withdrawal negative affect stage, the dopamine systems are compromised leading to brain stress systems being active leading to an aversive dysphoric state this enhances the preoccupation anticipation stage that will drive further seeking of drugs to reduce the dysphoric state. During this last stage, the cues from the hippocampus and basolateral amygdala converge with the frontal cortex in the drive and other components of the frontal cortex are compromised which produce a reduction in executive function.

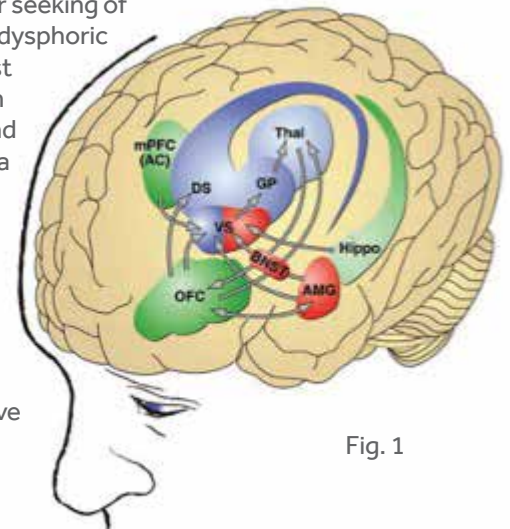


Fig. 1

[Koob et al. 2008](#)

Addiction Medicine, continued

PET and FDG-PET that measure glucose metabolism which is a sensitive indicator of damage in tissue demonstrate the changes that occur with chronic drug use (Fig. 2). Damage to the orbital frontal cortex (OFC) results in improper inhibitory control and compulsive behavior, and damage to the myocardium will result in improper blood circulation. [Neuroimage. 2013;64:277-283](#)

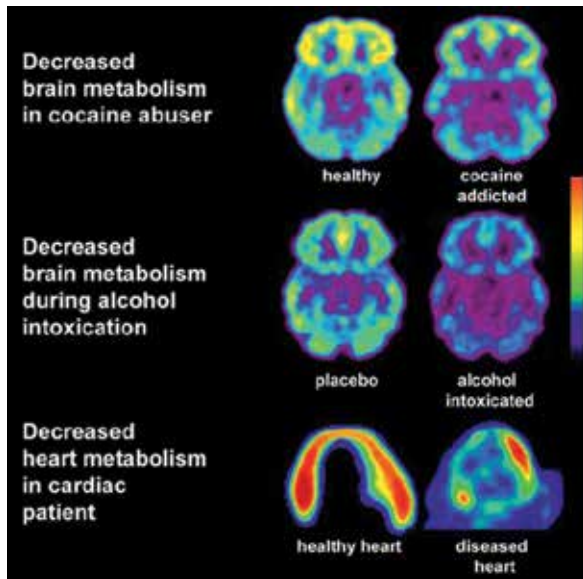


Fig. 2

Screening

All patients should be universally screened for substance use (alcohol, opioids, tobacco, sedatives, stimulants, and cannabis). Often this is done with a tool or questions that are not validated. All pregnant patients should be offered screening if positive brief intervention and referral to treatment. Initiating the screen with broad questions regarding parental, peers, partner, and past use can help the patient feel open to discussing current use. The 4P's Plus is a validated tool that can also screen for domestic violence and depression. The time to administer is one minute; if positive, additional time would be needed for brief intervention and referral to treatment. [SMFM Special Report July 2019](#).

At the Banner University Medicine Women's Institute, we employ our social workers, behavioral health and addiction medicine team if a patient is positive for substance use disorder. Having co-located services of obstetrics, addiction medicine and behavioral health is beneficial in establishing trust and organizing appointments.

Opioid Use Disorder

When a pregnant patient is referred for opioid use disorder the recommendation from ACOG, SMFM, SAMSHA and HRSA is to transition the patient from an illicit drug use to either methadone, a full agonist; or buprenorphine, a partial agonist. Much research has been conducted over the last several years in obstetrics. In summary of that research, the priority of medications for opioid use disorder (MOUD) is to maintain recovery and abstinence from illicit opioid use.

The best medication is the one that successfully achieves prolonged abstinence for the patient. The advantages of buprenorphine is that a patient can receive it from a prescriber with a DEA waiver, often in a primary care office setting.

Currently there is not enough known about naltrexone as first line therapy in pregnancy. It is a reasonable consideration if the patient is stable on naltrexone and becomes pregnant. The other complicating variable is if the patient were to require surgery the naltrexone would affect optimal pain control. [Seminars in Perinatology 43\(2019\)141-148](#)

The available MOUD in pregnancy are listed in the following table.

Medication	Mechanism	Administration	Dosage	Availability
Methadone	Full Agonist	Oral: liquid, pill or wafer	Daily	Opioid Treatment Program (OTP)
Buprenorphine	Partial Agonist	Sublingual: pill or film	Daily	Prescriber with waiver
		Implant	6 mths	
		Injectable	4 wks	
Naltrexone	Antagonist	Oral	Daily	Provider with pre-prescribing authority
		Injectable	Monthly	

Induction of MOUD

During pregnancy both inpatient and outpatient management is appropriate. With supportive medications both a traditional and micro-dosing method of induction to buprenorphine can be successful in either environment. [Clin Drug Investig 2021;41\(5\):425-436](#)

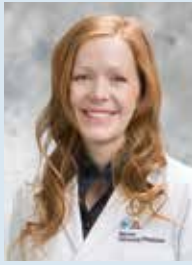
Traditional method requires that the mu receptor be vacated, or a precipitated withdrawal will occur secondary to the increase affinity that buprenorphine has at the receptor.

The micro-induction method slowly saturates the mu receptors.

Conclusion

Addiction, defined by the Substance Abuse and Mental Health Services Administration (SAMSHA), American Society of Addiction Medicine (ASAM) and the National Institute on Drug Abuse (NIDA), is a primary, chronic disease of brain reward, motivation, memory, and related circuitry. It remains a complex medical and behavioral condition that will often require intense medical and behavior care. All persons should be screened for risk of substance misuse and use disorders. Screening to Brief Intervention should be complemented with referral to treatment when a substance use disorder is identified.

The physicians at Banner University Medical Center Phoenix Addiction Recovery Center (ARC) in Family Medicine and the Halle Empower and Affirmation Legacy (HEAL) in the Women's Institute are committed to compassionately caring for individuals with substance use disorder. The Women's Institute specifically works with pregnant and postpartum individuals with substance use disorder and perinatal mental health disorders.



Dr. Candice Wood

Pregnancy is truly one of the most exciting times in a woman's life and as obstetricians, it is truly an honor to care for women through this experience. It's a time of change, sickness, and discomfort, but it is equally a time of excitement and anticipation as the newly created life in the mother's belly is developing and growing as the mother nears her due date. Once delivered, seeing a mother hold her newborn child as she takes on her new

role as a mother is incredible, almost idyllic. All the months of sacrifice, hours of labor, all climaxed in the truly indescribable arrival of new life—perfection. Unfortunately, in stark contrast to this the reality is that pregnancy and delivery are often riddled with complications including maternal mood disorders.

Maternal mood disorders are common both in pregnancy and postpartum. Though we as obstetricians work tirelessly to prevent and manage health issues to ensure the health of both of our patients, mother and child, maternal mental health often goes undiagnosed both because it is not something we can test with a urine or blood sample but also because it is not expected. Recent studies show however, that up to 20% of women suffer from mood or anxiety disorders during their pregnancy. This 20% includes both women with known histories of mood disorders as well as those who are having symptoms for the first time. Diagnosis and appropriate treatment are key in order to prevent risks associated with mother's suffering from these conditions. Women who suffer from psychiatric illness during pregnancy are less likely to get prenatal care, more likely to use alcohol, tobacco, THC, and other harmful substances. Studies also show low birth weight, fetal growth restriction, and preterm delivery to be associated risks. Anxiety disorders in pregnancy have been shown to increase the risk of preeclampsia, operative delivery, and infant admission to a special care nursery.

In addition to mood disorders during pregnancy, women also suffer from mood disorders postpartum. Up to a startling 85% of woman experience some type of mood disorder postpartum. Postpartum mood disorders are often organized into three categories: postpartum blues, postpartum depression and anxiety, and postpartum psychosis. Postpartum blues are very common affecting 50-85% of all mothers and is arguably just a normal part of recovery. Symptoms include tearfulness, anxiety, mood lability, and increased irritability. These symptoms typically peak day five postpartum and resolve by two weeks. Postpartum depression or anxiety is characterized by unremitting symptoms of depression or anxiety beyond the first two weeks postpartum. The symptoms of the disorders are the same for depression and anxiety at any period in life. Somewhere between 10-15% of mothers suffer from postpartum depression or anxiety. Finally, postpartum psychosis occurs in 1 to 2 per 1,000 women after delivery. It's onset is usually within 48-72 hrs to two weeks after delivery. It is often characterized by depressed and elated moods, erratic behavior, irritability, insomnia, delusions, and even hallucinations. The risk of infanticide and suicide is significant in this population and recognition and appropriate treatment are essential.

During routine prenatal care, obstetricians are seeing these patients frequently and are their first line of help. There are many steps that can be taken. First, providers can increase awareness of mental health issues in pregnancy to all patients with broad screening questions at well visits. This may rarely lead to a diagnosis but it will definitely increase awareness and decrease the feeling of shame that keeps many woman from sharing how they feel. Second, with any fertile patient with a history of a mood disorder, currently being treated for one, or screening positive, the opportunity to further discuss their mental health. This includes discussing the safety profile of any current medications, the need for therapy, and potentially the initiation of medication. Next, with pregnant patients with a history or current mood disorders, encouraging frequent follow up with therapists or mental health providers is central to maintained stability and preventing relapse. Data suggests that greater than 20% of treated women will relapse in pregnancy while nearly 70% of woman who discontinue treatment will relapse. This same patient population should have a visit to discuss their specific risks for worsening or presentation of symptoms in the postpartum period. Finally, implementing screening at least one to two times during pregnancy especially to woman with risk factors in addition to postpartum, for anxiety and depression could allow clinicians to find and help more of the mother's who suffer silently.

Once diagnosed getting the patient care is the next big hurdle. These women need treatment and they need it in a timely fashion. In most cases, their symptoms are acute and quite debilitating especially to postpartum moms who are responsible for the care of a newborn. The patient should be referred to a psychologist and/or psychiatrist for care. Having a few clinician's names and contact information ready to refer patients to eases this process for patients for which any barrier might be too much. Support groups are also available online and in person that can be key to a patient's recovery. Implementing an algorithm for follow-up visits or calls is simple and may serve to be a mother's lifeline. The ability to create life is truly a miracle and pregnancy should be a time of well-being as this miracle is experienced. Working actively to prevent, diagnose, and treat mental health disorders during pregnancy, is an essential part in allowing this to happen.

At the Woman's Institute we seek to eliminate barriers to care by providing diagnostic treatment, basic psychotherapy, and pharmacotherapy in the same office as all women's healthcare is provided. Timely and effective treatment is essential in a safe, comfortable environment. As our program grows, we are eager to start in-person support groups for our patients. We are also seeking to expand our reach to patients throughout the valley and also statewide via telehealth.

Patient Referral Contact Info:
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References:

Evans J, Herron J, Francomb H, et al. *Cohort study of depressed mood during pregnancy and after childbirth.* [BMJ 2001, 323:257-260.](#)

Carter D, Kostaras, X. *Psychiatric disorders in pregnancy.* [BCMJ 2005, 47: 96-99.](#)

www.womensmentalhealth.org

Cervical Cancer Screening and Prevention: The Mission of BUMC-P Colposcopy Clinic | David Greenspan, MD

The University of Arizona BUMC-P Obstetrics and Gynecology Colposcopy Clinic sees patients referred with abnormal cervical cancer screening tests. This clinic evaluates, diagnose, and treat cervical precancerous lesions and early cervical cancer (CC). The clinic trains residents in colposcopy, excision procedures, and the management for follow up of these patients at increased risk of developing cervical cancer.

Cervical Cancer (CC) is a major problem worldwide in unscreened/underserved populations with 604,000 cases and 342,000 deaths worldwide in 2020 and 90% of deaths are in Low- and Middle-income countries (LMIC). In the United States 2022 estimates are 14,000 cervical cancer cases and 4,280 deaths. Effective outpatient treatment of precancerous lesions is available to prevent progression to Cancer. Screening and early detection is now even more effective with highly sensitive high-risk HPV (Human Papilloma Virus) testing. Screening includes high risk HPV types known to be associated with cervical precancer and cancer particularly identifying HPV genotypes 16/18 in women 25 or 30 years and older.

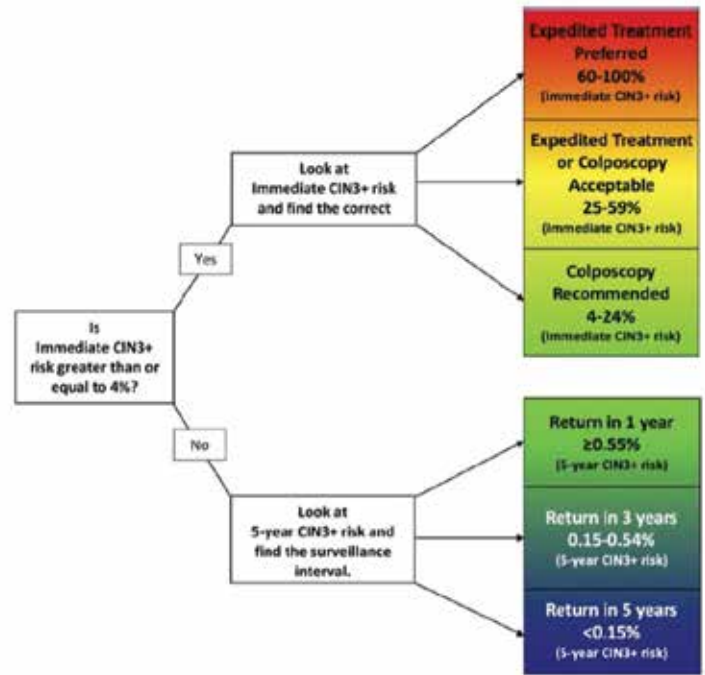
Screening programs for CC in LMIC populations use visual inspection with acetic acid and lugols iodine applied to the cervix (VIA, VILI). Recently this has been supplemented with enhanced portable optical screening devices. Rapid HPV testing and forthcoming artificial intelligence (AI) continue to expand in these underserved regions allowing for large-scale effective screening.

Cervical Cancer prevention in LIMC populations uses these modalities with same day "see and treat." Initially identifying at-risk women with rapid high risk HPV testing and then using VIA VILI with portable enhanced optical devices to identify women with precancerous lesions for immediate treatment. Treatment included cryosurgery with CO2 or liquid nitrogen. However, portable battery-operated devices can now perform ablative treatment with cold coagulation and similar portable devices can perform loop electrosurgical excision procedures (LEEP) avoiding the difficulties with storage, transport, and supply with cryosurgery. Many regions have effective prevention and screening with training mid-level providers to perform on site vaccination, screening, diagnosis, and treatment on the same day.

While training providers to expand screening is important another option is to have less trained providers use devices that have AI (Artificial intelligence) that can assist in objectively detecting precancerous lesions and recommend treatment or follow up. AI is starting to become an integral part of these portable enhanced screening devices.

The Women's Care Center at BUMC-P uses cytology and HPV screening. Subsequent management is based on current individualized risk base guidelines that assesses immediate or 5-year risk of precancer or cancer. Management, treatment and follow up are equal within a given risk assessment range. Loop electrosurgical excision procedure (LEEP) with local anesthesia is taught and performed in the colposcopy clinic.

If risk assessment is high enough some patients may go directly to an excision procedure after screening without an intervening colposcopy as per guidelines. (Fig.1)



In August 2020, the World Health Assembly passed a resolution calling for elimination of cervical cancer. The Global Strategy outlines the following threshold. "We will have eliminated cervical cancer as a public health problem when all countries reach an incidence rate of less than 4 cases per 100,000 women."

This should happen within the lifetime of today's young girls. Targets over the next decade include 90% of girls getting vaccinated against HPV, 70% women screened for pre-cancerous lesions, and 90% of those who need it have access to treatment. These measures could reduce new cases by more than 40% and prevent five million related deaths by 2050. As of 2020, however, only 13% of girls 9-14 years old globally have been HPV vaccinated.

Moreover, focusing on reaching out and educating underserved populations in our own community about the importance of prevention with vaccination, screening, and treatment of precancer and early cancer is critical if cervical cancer can one day be eliminated as a major health concern for future generations of women.



Dr. David Greenspan

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Louisiana State



Emily Fanning, MD
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Michelle Nguyen, MD
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Kelsie Ovenell, DO
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Stephanie Tufano, MD
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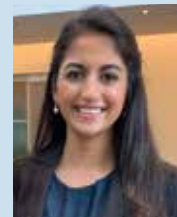
Fellows



Kari Evans, MD
Maternal Fetal Medicine



Daniela Gomez, MD
Maternal Fetal Medicine



Sheena Galhotra, MD
Minimally Invasive Gynecologic Surgery

Welcome! New class of Obstetrics & Gynecology Residents and Fellows Joining BUMC-P June 2022

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University



Brittney Bruno
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Marisa Delgado
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Ngoc-Anh Le
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University



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Megan Sluga
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Fellows



Nuria Luna Ramirez
Minimally Invasive Gynecologic Surgery
Maimonides Medical Center



Megan Kline
Maternal Fetal Medicine
Mountain View Hospital

The OBGyn Department at BUMCP strives to serve our community through public service, clinical care expertise, academic research and medical education. We hope you enjoy sharing in our activities through the *Women's Health Update* Newsletter. We welcome any questions, comments or feedback you may wish to communicate. Please contact us at: BUMCP_Womens_Health_Update@bannerhealth.com

Patient Referral Contact Information

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www.phoenixchildrens.org/centers-programs/pediatric-and-adolescent-gynecology

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Please note: space limitations do not allow for a comprehensive list of providers practicing at each location.