Patterns of Access, Service Use, and Outcomes for Persons with Substance Use Disorders across Florida's Managed Medical Assistance (MMA) program

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FINAL

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Introduction

Substance use disorders commonly emerge in late adolescence and can affect an individual throughout decades of their life, vacillating between periods of relapse and recovery. Large numbers of persons with substance use disorders never seek care. In those that do, co-occurring mental health disorders are very common (Watkins, Hunter, Wenzel, Tu, Paddock, Griffin, et al., 2004) as is the presence of traumatic experiences (Gearon, Kaltman, Brown, & Bellack, 2003) and/or intermittent criminal justice system involvement (Harrison & Gfroerer, 1991). As epidemiological studies have demonstrated, the age of onset for substance use disorders has decreased over the last forty years. Previous analyses have also demonstrated this to be true in samples of individuals treated for opioid dependence in Florida (Hills, Richards, & Peters, 2010).

Positive outcomes are seen in individuals with substance use disorders who are successfully engaged in substance abuse treatment and have care coordination between their mental health and physical health providers. Persons with substance use disorders move in, out, and across levels of care. Engagement in substance abuse treatment services, often across multiple treatment episodes, can lead to sustained recovery, but can be difficult to achieve.

The implications of successful engagement in substance abuse treatment may be most significant in the specific subpopulations of pregnant women and emerging adults (ages 18-24). In the former group, successful and stable recovery of a mother can promote health of the fetus, limit child welfare involvement, and create opportunities for self-reliance and independence for her family. Early, successful intervention for young adults can help them achieve important developmental milestones (e.g., living independently, graduating from technical school or college, and employment). Given these multiple challenges, engagement and retention in substance abuse treatment and service coordination are highly relevant to positive outcomes.
Literature Review

Substance Use among Pregnant Women

According to the National Survey of Drug Use and Health (2013), the rate of illicit substance use among women of childbearing age (i.e., 15-44 years old) is 11.4%, with 5.4% of pregnant women reporting substance use. The greatest rates of substance use during pregnancy are seen in pregnant women ages 15-17 years old (14.6%) and 18-25 years old (8.6%) (National Survey of Drug Use and Health, 2013). Substance use during pregnancy has been linked to a range of negative consequences such as Fetal Alcohol Syndrome (FAS), Neonatal Abstinence Syndrome (NAS)/infant withdrawal, stillbirth, low birth weight, birth defects, small head circumference, premature birth, and Sudden Infant Death Syndrome (SIDS), as well as long term neurological and learning disorders (Bencke & Smith, 2013; Hudak & Tan, 2012). In addition, mothers who abuse substances are at an increased risk for violent victimization, loss of children to child welfare, and criminal justice system involvement (ACOG, 2014).

Consistent with the national trends regarding illicit opioid use, the rate of opioid use during pregnancy has increased over the past two decades with estimates citing opioid exposure among 4 per 1,000 (Maeda, Bateman, Clancy, Creanga, & Leffert, 2014) to approximately 6 per 1,000 live births (Patrick, Schumacher, Benneyworth, Krans, McAllister, & Davis, 2012). Relatedly, the rate of engagement in substance abuse treatment by pregnant women citing prescription opioids as their primary drug of abuse has significantly increased, from 2% in 1992 to 28% in 2012 (p<0.01) (Martin, Longinaker, & Terplan, 2015). Other common primary drugs of abuse among pregnant women entering substance abuse treatment include heroin, cocaine and alcohol, and almost three-quarters of pregnant women entering substance abuse treatment report poly-substance use (Martin et al., 2015).

Detoxification

Current practice recommendations for treating opioid dependence among pregnant women indicate that detoxification (opioid withdrawal) should be avoided if possible (ACOG, 2014). Although
existing research is equivocal regarding the relationship between sustained detoxification and negative fetal outcomes, detoxification is associated with high rates of relapse and cyclical episodes of substance use and abstinence that are related to fetal distress (Luty, Nikolaou, & Bearn, 2003).

**Opioid Agonist Treatment**

The standard practice for treating opioid abuse among pregnant women is Opioid Antagonist Treatment (OAT) programs. OAT programs utilize prescription opioid agonist medication, a medication that prevents the brain’s opioid receptors from binding with opioids and producing a euphoric effect. The two most utilized agonist medications include methadone (a full \(\mu\)-opioid agonist) or buprenorphine (a partial \(\mu\)-opioid agonist and \(\kappa\)-antagonist), in collaboration with psychosocial support (e.g., individual and/or group counseling). The goals of OAT programs are to manage withdrawal, reduce cravings, and impede the euphoric effects of illicit opioid use through agonist medication. OAT programs have been shown to reduce illicit drug use and increase positive health outcomes such as engagement in prenatal care (ACOG, 2014; CSAT, 2008).

Methadone is currently the FDA approved “first line therapy” for opioid agonist therapy during pregnancy and is recognized as the “international standard of care for opioid dependent pregnant women” (Welle-Strand, Skurtveit, Jones, Waal, Bakstad, Bjarkø, et al., 2013, p. 200). Agonist medication dosage for pregnant women should be adjusted and carefully monitored so that withdrawal symptoms (e.g., cravings, nausea) and fetal distress are minimized throughout pregnancy (ACOG, 2014). Women who were maintained on methadone prior to pregnancy should continue their pre-pregnancy dosage. For women who are inducted into methadone treatment during their pregnancy, standard dosage procedures should be used: initial methadone doses of 10 to 20 mg per day, with exact dosage based on a patient’s opioid use history (CSAT, 2008). As a patient’s pregnancy progresses and her metabolism changes, the dosage may need to be increased (at a rate of 5 to 10 mg) or “split” into two separate daily doses (CSAT, 2008).
The integration of psychosocial factors is paramount to successfully treating opioid dependent pregnant women. The Centers for Substance Abuse Treatment (2008) indicates that services should be “woman centered” and “directly address traumatic events” (p. 222). Examples include:

- Special groups to address problems of pregnant women who are opioid addicted;
- Education and discussion groups on parenting and childcare;
- Special groups and services for children and other family members;
- Couples counseling;
- Case management and assistance in locating safe, affordable housing (p. 222).
- An assessment of nutritional status, eating habits, and weight;
- Education on appropriate diet and weight to meet optimal targets for the pregnancy;
- Counseling to ensure that special nutrition related medical and psychosocial problems are addressed—with high priority given to stopping or substantially reducing cigarette, alcohol, and other substance use with known adverse effects on fetuses;
- Supplemental nutrients when nutritional needs cannot be met by diet changes;
- Information about and referral to food assistance programs (p. 224).

**Buprenorphine versus Methadone**

A small but growing body of evidence suggests that buprenorphine may be more optimal than methadone for treating opioid use in pregnant women. A recent meta-analysis, including three randomized trials and 15 cohort studies, indicated that buprenorphine was moderately associated with lower risk of preterm birth, greater birth weight and larger head circumference compared to methadone (Zedler, Mann, Kim, Amick, Joyce, Murrelle, & Jones, 2016). In addition, results of several randomized clinical trials have found that buprenorphine is associated with milder NAS than methadone resulting in fewer NAS treatment days for exposed infants (Fischer et al., 2006; Jones et al., 2005, 2010). However, both methadone and buprenorphine are associated with risk of NAS, which requires careful monitoring and medical care for the exposed infant (ACOG, 2014; Hudak & Tan, 2012). NAS can be treated with a myriad of pharmacological interventions including opioids, barbiturates, benzodiazepines, clonidine, and phenothiazines, but the Academy of Pediatrics indicates that opioids (e.g., methadone or morphine) are the “first drug of choice” (Hudak & Tan, 2012, p. e548).
Barriers to Substance Abuse Treatment

Research indicates that many pregnant women may have limited access to substance abuse treatment (Saia et al., 2016). For example, fewer than 30% of states have created and/or funded drug treatment programs specifically for pregnant women, and only 13 states provide pregnant women with priority access to state-funded substance abuse treatment programs (Guttmacher Institute, 2016). Further, pregnant women with a substance use disorder may not seek substance abuse treatment due to perceived stigma and fear of legal consequences (Saia et al., 2016). At present, 18 states require health care professionals to report suspected prenatal use of illicit substances, 4 require health care professionals to test for prenatal drug exposure if substance use disorders are suspected, and 18 states consider substance use during pregnancy to be child abuse under civil child-welfare statutes (Guttmacher Institute, 2016).

Onset and Patterns of Substance Use in Young Adults

The use of substances has a far reaching impact on American society and is estimated to cost the US more than $600 billion dollars annually. Costs compiled include those associated with crime, sexually transmitted infections, need for substance use disorder (SUD) treatment, and other mental and physical health care expenses (National Drug Intelligence Center, 2011). Patterns of health behaviors established in adolescence and continuing into adulthood can affect individuals across their life. Park et al. (2014) examined 21 national data sources to examine patterns of health behavior change across a range of illnesses. Comparisons were made between two groups (approximately 12-17 and 18-25 years of age). Their review of the data revealed that past-month substance use increases ‘dramatically between adolescence and young adulthood’ (Park et al., 2014, pg. 11). With fourfold increases in ‘any alcohol use’, fivefold increases in binge drinking, tenfold increases in ‘heavy alcohol’ use and doubling of the rates of marijuana use rates. Additionally, suicide rates were found to be doubled in the young adult population (Park et al., 2014). Overall the authors conclude that young adulthood entails ‘greater risk
and worse outcomes than adolescence’ (Park et al., 2014; pg. 3).

In examining the far-reaching effect of substance use disorders, evidence from adolescent populations must be examined, as almost all individuals initiate substance use before adulthood and, with limited exceptions, substance use disorders onset ‘before 25 years of age’ (Pepier et al., 2016, pg. 350). Looking across the epidemiological studies that have been conducted over the past three decades (Epidemiological Catchment Area Study in the early ‘80s; the National Longitudinal Alcohol Epidemiologic Survey (NLAES) in the early ‘90s; and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) in the early ‘00s), Pepier and colleagues conclude that lifetime prevalence of substance use disorders is increasing in US adults (Pepier et al., 2016). Examining recent data from the National Survey on Drug Use and Health (NSDUH, 2014), Pepier and colleagues (2016) report that the 12-month prevalence of substance use disorders (SUDs) is greatest in 18-25 year olds as compared to any other age group, even with a significant decline in alcohol use disorders in the period between 2002 and 2014. Even with this downward trend in alcohol use disorders, it is estimated that over 20% of young adults (18-25 years) meet criteria for past-year substance use disorders (Gayman, Cuddeback, & Morrissey, 2011).

Impact of Co-occurring disorders

In a community sample of young adults, individuals with Bipolar Disorder (BD) with and without co-occurring substance disorder were evaluated on a range of measures, including the Functional Assessment Short Test (FAST). Young adults with comorbid substance abuse/dependence (SAD) were found to have greater cognitive impairment (concentration, problem solving, learning new information, and remembering learned information) than those with BD alone. This finding has implications for their ability to be successful in treatment, which often requires these skills as a part of their involvement in care (Cardoso et al., 2015). Further, substance misuse is thought to impact ‘illness progression’ in individuals with BD (Post and Kalivas, 2013). The presence of co-occurring SAD in individuals with BD
has been found to be associated with more severe presentations of the disorder, including increased frequency of depressive episodes and suicide attempts, and longer duration of manic episodes (Cerullo and Strakowski, 2007). Attention deficit/hyperactivity disorder (ADHD) is one of the most common mental health disorders observed in adolescents and about half of all cases appear to continue into adulthood (Zulauf et al., 2014). In examining the literature related to these co-occurring disorders, Zulauf and colleagues (2014) conclude that the addiction must be the focus of the initial intervention, followed by an integrated intervention that utilizes motivational interviewing and cognitive behavioral therapeutic interventions that employ ‘structured and goal directed sessions as well as active therapist involvement’ (pg. 8).

Young Adults and Help Seeking

Examining a sample of young adults (18-23 years, N=672) with a history of substance use disorders, Gayman, Cuddeback, & Morrissey (2011) sought to understand the factors related to help-seeking and the initiation of this process. A large majority of their sample (68%) gathered in Miami-Dade County reported never having sought help. Help-seeking was defined, as is done in other epidemiological investigations, by inquiring as to whether the individual had ever sought help from a physician, mental health specialist, or another professional (including clergy) for their substance use problem, or if they had ever attended a self-help group (Alcoholics Anonymous (AA) / Narcotics Anonymous (NA))(Gayman, Cuddeback, and Morrissey, 2011). In their sample, non-hispanic whites (41%) and African Americans (18%) had significantly different rates of help-seeking; those individuals who reported a history of arrest were significantly more likely to seek help as compared to those with no arrest history. No differences by gender were found (Gayman, Cuddeback and Morrissey, 2011). Delays in help-seeking (averaging approximately two years from the onset of initial symptoms) in the Gayman and colleagues’ sample is shorter than other estimates, but raises concern due to important developmental periods that are taking place in early adulthood and the strong association between
early onset problems and later life difficulties. The authors conclude that ‘research on effective prevention and intervention efforts specific to young adults must be accelerated’ (Gayman, Cuddeback, and Morrissey, 2011, p. 475).

**Innovations in Treatment with Young Adult Populations**

A majority of adults entering SUD treatment have co-occurring mental health disorders, estimates range from 50-75% of those admitted to care (SAMHSA/CSAT (TIP 42), 2005). Having a comorbid mental health and substance use disorder is associated with increased rates of help-seeking in both adolescent and adult populations; but this does not directly translate into receiving integrated care for their co-occurring conditions (CODs) (Gayman, Cuddeback, and Morrissey, 2011; Harris and Edlund, 2005). In the Gayman and colleagues sample (2011), young adults with co-occurring Posttraumatic Stress Disorder (PTSD) were significantly more likely than those with substance use disorders alone to seek treatment for their substance use disorder. Given that, compared to other life stages, young adults have the highest rates of CODs, substance abuse treatment must focus on integrating care for both mental health and substance use disorders. Bergman et al. (2014) examined outcomes for a ‘psychiatrically-integrated’ residential treatment program for substance use disorders (SUDs) comparing outcomes for both those with and without comorbid disorders. Patients admitted with CODs historically have been found to have poorer social functioning and coping strategies and have experienced more negative outcomes (Bergman et al., 2014). In the Bergman and colleagues sample (N = 300, average age = 20.3 years of age), young adults received a residential treatment intervention that employed 12-step facilitation and cognitive-behavioral and motivational enhancement therapies in addition to psychotropic medications and evidence-based interventions for their co-occurring mental health disorders (2014). Follow up after the 25 day intervention over a twelve-month period revealed that those with CODs had comparable abstinence rates to those with no co-occurring mental health disorders. The authors conclude that the integration of psychiatric care had ameliorated the subjects’
‘worse’ clinical profile at admission (Bergman et al., 2014).

A significant proportion of young adults entering SUD care in recent years present with opioid dependence. It is estimated that, in the US, 1 million citizens ages 18-25 are nonmedical users of prescription opioids. In a study investigating differential outcomes for young adults (ages 16-24) examining 56 versus 28 day buprenorphine tapers under a randomized and controlled trial, subjects in the 56 day taper were found to have better abstinence outcomes and improved retention in care (patients received a placebo throughout their care period following the drug taper) (Marsch et al., 2016). A reduced daily attendance frequency requirement (2-3x weekly vs. daily) also predicted a better retention in care, irrespective of taper condition. Two additional studies focused on young adult populations with opioid dependence examined the use of extended release naltrexone (XR-TRX) and buprenorphine to evaluate decreased opioid use and improved psychosocial functioning. In a preliminary investigation of 16 individuals, Fishman et. al. (2010) found that the XR-TRX was well tolerated in a four month intervention and that 56% of subjects were evaluated to have good outcomes (defined by decreased opioid use and improvement in at least one psychosocial domain (e.g. school, work, legal or family). In a follow up naturalistic evaluation, Vo et al. (2016) compared the use of XR-TRX and buprenorphine in a young adult sample (mean age 23) and found similar ‘good’ outcomes across the two medication groups, with the exception that the XR-TRX group had fewer positive drug screens for other/nonopioid substances. The authors conclude that these findings support the use of these medications in community based settings (Fishman et al., 2010; Vo et al., 2016). Finally, another evaluation examined a technology-driven (using email, text, online support) treatment program to help engage youth and their families in care for their substance dependence. In the Recovery Oriented Community (ROC) program, 966 young adults were offered a relapse prevention program following their formal treatment that sought to engage them in continued abstinence through the technology driven strategies described (Simons et al., 2016). Overall, the authors conclude that this methodology, as a
component of care, offers a promising practice for the sustained engagement of young adults in ongoing SUD care (Simons et al., 2016).

Summary

Both subpopulations (pregnant women and emerging adults) examined have been the focus of increased attention in the research literature in the past several years. Effort has gone into developing specialized interventions that address the specific psychosocial stresses unique to each group. Both populations have been significantly impacted by the growth in the rates of opioid dependence over the past decade. Relatedly, innovations in care have focused on the implementation of technology driven interventions and the use of newly available evidence based practices and medication variants.
References


