Original Study

A Retrospective Chart Review of Contraceptive Use among Adolescents with Opioid Use Disorder

Caitlin J. Handy BA [1], Hannah L.H. Lange MPH [2,*], Brittny E. Manos BA [2], Elise D. Berlan MD, MPH [1,3], Andrea E. Bonny MD [1,2,3]

[1] The Ohio State University College of Medicine, Columbus, Ohio
[2] The Research Institute at Nationwide Children's Hospital, Columbus, Ohio
[3] Division of Adolescent Medicine, Nationwide Children's Hospital, Columbus, Ohio

A B S T R A C T

Study Objective: To describe contraceptive use among female adolescents initiating outpatient treatment for opioid use disorder.
Design: Retrospective chart review.
Setting: Outpatient clinic providing medication-assisted treatment for substance use disorders to adolescents and young adults.
Participants: Nonpregnant female adolescents who presented for treatment from January 1, 2013 to January 31, 2016 (N = 123).
Interventions: None.
Main Outcome Measures: Prescription contraceptive use at baseline and initiation of a new method within 90 days.
Results: Of 123 female adolescents who presented for treatment of opioid use disorder, 113 (91.9%) reported sexual activity and 80 (65.0%) were not using prescription contraception at intake. Previous pregnancy was reported by 43 (35.0%) and 20 (16.3%) were positive for a sexually transmitted infection. Contraceptive counseling was not documented for 73 (59.3%) patients. Among patients with no prescription contraception at baseline, 56 of 80 (70.0%) initiated a method within the study window. Significant predictors (odds ratio [OR]; 95% confidence interval) of contraceptive initiation included previous pregnancy (8.6; 1.39-52.99), education of less than a high school diploma/general equivalency diploma (7.4; 1.63-33.41), and return for follow-up visit (9.8; 2.18-43.69).
Conclusion: Young women who presented for opioid use disorder treatment were at high risk of adverse reproductive health outcomes. Most were sexually active and not using prescription contraception. Findings underscore the need for contraceptive counseling in this patient population. Optimally, these services would be provided in conjunction with substance use treatment. Improved contraceptive counseling documentation will allow evaluation of effective contraceptive counseling strategies for adolescents with opioid use disorders and might serve to inform future interventions.
Key Words: Adolescent medicine, Opioid use disorder, Contraception, Reproductive health

Introduction

Opioid use among adolescents has rapidly become a major public health concern.[1,2] Recently, the nonmedical use of prescription (Rx) opioids by adolescents surpassed use of all other illicit substances except marijuana; more than 10% of high school seniors report use of Rx opioids for nonmedical purposes.[1,3,4] Substance misuse among adolescents and young adults is associated with high-risk sexual behavior. Compared with their nonusing counterparts, adolescents who report substance misuse are almost 4 times as likely to report sexual intercourse in the past 3 months.[5] Additionally, substance misuse is associated with earlier sexual debut and increased number of sexual partners.[6] The nonmedical use of Rx drugs specifically is associated with higher instances of unprotected sex in the past 3 months and increased frequency of exchange and group sex among young adults.[7,8]

Although substance misuse is associated with high rates of unplanned pregnancy and poor pregnancy outcomes, little research has been done on patterns of contraceptive use and counseling among adolescent patients in substance use treatment programs.[9] Safe and highly effective long-acting reversible contraceptive (LARC) methods such as intrauterine devices and the contraceptive implant are recommended as first-line contraceptives for adolescents.[10,11] Lack of patient familiarity has been reported to be a major barrier to initiation of contraception in general and LARC in particular.[12] Contraceptive counseling describing the most effective methods first (ie, efficacy-based contraceptive counseling) can reduce knowledge barriers and promote LARC initiation in adolescent populations.[13] Although efficacy-based counseling has been assessed and endorsed in the general adolescent population, to our knowledge, there is no research evaluating it among adolescents with substance use disorders, who have demonstrably higher sexual risk behaviors.

The Medication Assisted Treatment of Addiction (MATA) clinic at Nationwide Children's Hospital provides outpatient care to adolescents and young adults with moderate to severe opioid use disorders. The objective of this study was to

Dr Berlan receives honoraria from Merck & Co for being a Nexplanon trainer. The remaining authors indicate no conflicts of interest.

* *Address correspondence to:* Hannah L.H. Lange, MPH, The Research Institute at Nationwide Children's Hospital, 700 Children's Dr, Columbus, OH 43205; Phone (614) 722-3465
E-mail address: hannah.lange@nationwidechildrens.org (H.L.H. Lange).

1083-3188/$ - see front matter
https://doi.org/10.1016/j.jpag.2017.11.002

describe contraceptive use among female adolescents initiating outpatient treatment for opioid use disorder.

Materials and Methods

Subjects and Setting

A retrospective chart review was conducted of all female patients who completed an intake visit at the MATA clinic, from January 1, 2013 to June 30, 2016, for the treatment of moderate to severe opioid use disorder. As previously described, the MATA clinic provides outpatient buprenorphine/naloxone (BUP/NAL) substitution therapy to adolescents and young adults, ages 14-25 years, with opioid use disorders while managing comorbid mental health and medical conditions.[14] A full substance abuse assessment is conducted on all patients at intake, and diagnosis is confirmed using the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition criteria.[15] Patients suitable for outpatient therapy according to the American Society of Addiction Medicine's *Patient Placement Criteria for the Treatment of Substance-Related Disorders*[16] are counseled to start BUP/NAL at home 18 to 24 hours after last opioid use. Patients are initially seen for follow-up every 7-14 days. Program metrics of success include: urine drug screen (UDS) positive for BUP/NAL, UDS negative for other drugs of abuse, and participation in an acceptable drug rehabilitation program (eg, intensive outpatient therapy, individual counseling, 12-step meetings). After several months of consistent success, visits are typically spaced 3-4 weeks apart. Intervals greater than 4 weeks between clinic visits are rare.

At the intake MATA visit, sexual and pregnancy histories are obtained, and sexually transmitted infection (STI) screening and hepatitis serology are routinely performed. A witnessed point of care UDS is collected at each MATA clinic visit, which includes testing for amphetamine, benzodiazepine, buprenorphine, cocaine, methadone, methamphetamine, opioids, oxycodone, and tetrahydrocannabinol. Urine specimen temperature, pH, bleach, nitrate, and creatinine are assessed to identify possible adulteration. In female patients, a urine pregnancy test is also performed at each visit.

Counseling regarding contraception is included in the psychosocial assessment performed by clinic social workers during the intake visit. Contraceptive use is reassessed at follow-up visits with additional counseling provided as needed. All Rx contraceptive methods can be initiated in the MATA clinic except for intrauterine devices, which are placed after referral to the affiliated Young Women's Contraceptive Services Program.

In January of 2015, MATA clinic social workers underwent a 2-day training program on efficacy-based contraceptive counseling adapted from the Contraceptive CHOICE Project.[13] Before this training, social workers were providing brief contraceptive counseling involving questions about current use of contraception and whether patients desired to continue this method or initiate a new method. Standard counseling did not include systematic discussion of all available contraceptive options. In contrast, the structured model used in the Contraceptive CHOICE Project seeks to eliminate knowledge barriers about contraceptive options through evidence-based counseling, beginning with the most effective methods first (ie, efficacy-based counseling).[17] Social workers underwent training in "LARC First," a CHOICE model that can be tailored to adolescents.[18] The LARC First curriculum uses a patient-centered approach to provide unbiased information about all contraceptive options. After receiving this efficacy-based contraceptive counseling training, MATA social workers planned to replace their standard contraceptive counseling with efficacy-based counseling.

Data Collection

Data were extracted from the institution's electronic health records database. Before study initiation, the research protocol was reviewed and deemed exempt by the Nationwide Children's Hospital institutional review board. The institution's Data Resource Center provided a list of eligible patients via a secure portal. To protect confidentiality of sensitive information, all patient identifiers were removed from the study database, which was maintained on a password-protected secure institutional server.

We reviewed each patient's intake visit to the MATA clinic and all subsequent visits within 90 days. This 90-day window was chosen on the basis of our previous data, in which loss to follow-up was common in this period immediately after intake (primarily because of failure to return for scheduled appointments).[14] As such, we believed this was a critical period of opportunity to provide contraceptive care. Information was collected on demographic characteristics, substance use and substance abuse treatment history, medical and reproductive health history, contraceptive use, and receipt of contraceptive counseling. Results were documented for intake hepatitis serology and STI screening and for witnessed point of care UDS at each visit during the study period. Patients were classified on the basis of their opioid of use as (1) heroin-only; (2) Rx opioid-only; or (3) combined heroin and Rx opioid.

Statistical Analyses

The main study outcome was Rx contraceptive use. The study sample was dichotomized into those using and not using Rx contraception at baseline. For both groups, initiation of a new method (within 90 days) was defined as documentation of: injection for depot medroxyprogesterone acetate (DMPA), Rx for combined hormonal contraceptives (CHC), or procedure for LARC. We used χ^2 and Student *t* tests to compare characteristics of those using and not using Rx contraception at baseline.

We further examined associations of demographic, substance use, sexual history, and medical characteristics with initiation of Rx contraception among those not using Rx contraception at baseline. Because contraceptive counseling practices changed in January of 2015, year of intake (pre-2015 and post-2015) as well as type of contraceptive counseling received were explored for association with contraceptive initiation. Treatment variables such as opioid