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Contraception in Drug-Dependent Women: A Novel Approach

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The goal for providers treating drug-dependent women is to break the cycle of addiction, poverty, and disability. The provision of contraceptive care within nontraditional care settings may provide such an opportunity. The Family Planning Initiative was a four-year project (2005–2009) that delivered contraceptive services to women within a pediatric clinic within a drug treatment facility. The program consisted of group and individual sessions antei- and post-parium that reviewed contraceptive choices and addressed barriers to care. This program demonstrated the clinical and cost effectiveness of integrated, accessible, and continuous health care for this vulnerable population. Health care providers should consider the institution of family planning services into nontraditional health care settings, which requires the extension of traditional health care boundaries, in the provision of comprehensive care that addresses critical population needs.

KEYWORDS maternal drug dependency, family planning, contraception, bilateral tubal ligation, drug abuse treatment

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The problem of substance abuse among women of child bearing age continues to be a major public health dilemma in the United States. Health care providers face tremendous challenges due to the numbers of mothers and infants affected by substance abuse (Zaichkin & Houston, 1993). Of the 4.3 million infants born annually in the United States, between 800,000 and 1 million infants are born to women who used drugs during pregnancy each year; approximately one in 9 infants are exposed to alcohol, one in 5 exposed to nicotine, and 1 in 20 exposed to illegal drugs (Nestler, 2009). In addition, the diversity and severity of maternal and infant problems related directly or indirectly to addiction also stress the delivery of health care. Substance dependent mothers frequently have co-morbid psychopathologies (Fitzsimons, Tuten, Vaidya, & Jones, 2007), are at high risk for exposure to interpersonal violence (Velez et al., 2006) and frequently have chaotic lifestyles and behaviors that impact their ability to care for themselves and their children (Jansson & Velez, 1999). Obstetrical complications are more frequent in this population of women, and include abruptio placentae, preterm birth, intrauterine growth restriction, preeclampsia, and low birth weight (Pinto et al., 2010). Infants are at substantial risk for the development of neonatal abstinence syndrome or other neurobehavioral problems related to exposure to illicit and/or licit substances (Jansson & Velez, 2011), and substance exposed infants and toddlers frequently display significant growth, development, and neurobehavioral deficits (Bandstra, Morrow, Mansoor, & Accornero, 2010). Parenting difficulties are not infrequent due to poor parental role modeling, multigenerational substance abuse, poverty, and maladaptive maternal behaviors associated with addiction (Jansson & Velez, 1999). These dyads are financially challenging health care resources; for many substance exposed infants, both longer and more specialized health care may result in higher costs (Phibbs, Bateman, & Schwartz, 1991; Norton, Zarkin, Calingaert & Bradley, 1996). Maternal substance abuse also has a substantial impact on the child welfare system. Children whose parents abuse alcohol and drugs are almost three times more likely to be abused and more than four times more likely to be neglected than children of parents who do not abuse alcohol and drugs; an estimated 40–80% of families involved in the child welfare system have problems with drugs and/or alcohol (Child Welfare League of America, 2001), with 10–20% entering foster care around the time of birth (US DHHS, 1999). Additionally, children of drug dependent mothers are more likely than non drug exposed children to have contact with the criminal justice system (US DHHS, 1990). It is clear that maternal substance abuse provides a direct and indirect economic burden to the health, educational, and judicial systems; social costs are more difficult to comprehend.
A high percentage of pregnancies among substance dependent women are unplanned (Jessup, 1979; Heil et al., 2011), and unintended pregnancies pose additional infant health risks (Shah et al., 2009). Heroin use is associated with oligomenorrhea or amenorrhea in 64–73% of women of child-bearing age (Gaulden, Littlefield, Putoff, & Seivert, 1964), however, fertility is unaffected (Fraser & Cavannaugh, 1991). Contraception has a low priority among drug dependent women for a number of reasons. Previous research suggests an association between substance use and poor or non-use of contraceptives in the general population, however, when controlling for confounders including other life factors this association was no longer present, suggesting that substance use and contraceptive non-use was part of a larger syndrome of difficult life circumstances and risk-taking behavior (Brown & Eisenberg, 1995). Among women in drug treatment programs, contraceptive practices are inadequate, reflecting poor use of traditional health care services; in one study, 73% of women in a drug treatment program reported that they would use a contraceptive clinic if it were available within the program (Morrison, Ruben, & Beeching, 1995). Reducing the burden of mistimed pregnancy may allow the drug dependent woman to focus on her recovery, psychiatric issues and parenting, and to address the numerous social challenges often faced by this population of women, including obtaining appropriate housing, receiving job training, and addressing legal issues. Resumption of drug use following childbirth is an additional reason for the provision of contraceptive services to this population of women; in a recent report, cigarette, alcohol, binge alcohol and marijuana use rates were higher in women with a child under 3 months (20.4%, 31.9%, 10.0%, and 3.8%, respectively) as compared to rates of use in the third trimester of pregnancy (13.9%, 6.2%, 1.0%, and 1.4%, respectively) (U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, 2009).

The provision of medical and drug abuse treatment services to this population of women and children often involves multiple medical and social disciplines that overlap in service provision; optimal treatment for this population is necessarily multidisciplinary in nature and comprehensive in focus (Lester, Andreozzi, & Appiah, 2004). It is the goal of most providers working with substance abusing mothers and their children to break the cycle of drug dependence, poverty and disability, yet there are often few opportunities to do so. One such opportunity may exist in the provision of contraception to drug dependent women in a convenient and acceptable setting that the women necessarily attend frequently: a pediatric clinic. The article describes the results of the provision of contraceptive care to women with children in a pediatric clinic within a drug treatment program.
MATERIALS AND METHODS

In 2005, funds were obtained for the development of a family planning program (the Family Planning Initiative; FPI) to provide contraceptive services to women bringing their children for pediatric care at a comprehensive care drug treatment center: The Center for Addiction and Pregnancy (CAP). CAP, described elsewhere (Jansson et al., 1996), is a multidisciplinary treatment facility providing mental health and substance abuse treatment, obstetrics and gynecology and pediatric care to pregnant and post-partum drug dependent women and their children at a single site in an inpatient and intensive outpatient model of care. Drug dependent women are admitted to CAP from the state of Maryland at any point in pregnancy; CAP admitted between 319 and 447 women per year during the four years of the program, and delivered a total of 584 infants (between 133 and 154 per year). The overwhelming majority of CAP clients receive Medicaid. CAP provides care to women through pregnancy until 6–8 weeks after delivery depending on individual insurance guidelines. Pediatric care at CAP begins at birth and continues until the child's 21st birthday, regardless of the mother’s enrollment in substance abuse treatment or health care. The pediatric clinic at CAP is located physically within the treatment facility for the women and their infants, and provides pediatric services exclusively to this population of children. Frequently, this clinic is the only link to any health care for the mother or children, and therefore a comprehensive view of the provision of pediatric care was adopted. Women are asked routinely about substance abuse treatment and psychiatric care, psychosocial needs, legal concerns, and contraception, and attempts are made to address any issues that can be identified within the clinic using existing or local resources. The FPI program was developed after it had been identified that women coming to the clinic were frequently without desired contraception after their departure from the CAP treatment program.

This project received funds that provided time for a physician's assistant (10%), an RN (20%), and an office assistant (20%) plus supplies (Depo-Provera injections, oral contraceptives, transportation) for a four year period; a total of $140,000 was received. Women eligible for FPI services included women delivering an infant or having a pregnancy termination while in care at CAP. FPI services included a group session education module, presented by the RN in 6 week cycles, consisting of the following components:

Week 1: Overview of anatomy, the menstrual cycle and conception.
1. Male and female reproductive anatomy
2. The menstrual cycle: menarche, reproductive years, menopause
3. Conception: ovulation, sperm, implantation
4. Overview of sexually transmitted diseases and prevention of sexually transmitted diseases (STDs)
Week 2: Overview of methods of contraception.
1. Abstinence, rhythm method, coitus interruptus
2. Barrier methods
   a. Male and female condoms
   b. Diaphragm
3. Hormonal methods
   a. Estrogen and progesterone methods
      i. Oral contraceptive pills (OCP)
      ii. Patch
      iii. Ring
   b. Progestin only methods
      i. Depo provera injections
      ii. Subcutaneous progesterone implant
4. Intrauterine devices (IUD)
   a. Progesterone; 5-year lifespan
   b. Copper; 10-year lifespan
5. Permanent sterilization
   a. Vasectomy
   b. Bilateral tubal ligation (BTL)

Week 3: Substance abuse and family planning
1. Barriers to contraception
   a. Expense and insurance issues
   b. Need to see a medical provider
   c. Partner objects to the use of or using contraception
   d. Convenience or inconvenience of individual methods
      i. IUD, subcutaneous progesterone implant, BTL do not require daily monitoring
      ii. OCP, patch, ring, Depo provera injection require patient to be involved daily, weekly, monthly or every 12 weeks
2. Substance abuse disorders can complicate contraception
   a. During active use, contraception is not a priority
   b. Forgetting methods when under the influence
3. Sexual health risk taking is higher in general in substance abusing women

Week 4: Oral contraceptives, the patch, the ring and Depo provera injections
a. Estrogen and progesterone combination
   i. OCP: prevent ovulation, daily administration required; oral; effective
   ii. Patch: prevents ovulation, weekly (3 of 4) placement required; topical; effective
   iii. Ring: prevents ovulation, placement for 3 weeks (3 of 4); intravaginal; effective
   iv. Side effects
b. Progesterone only
   i. Depo provera: every 12 weeks; injected; effective
   ii. Side effects
Week 5: Implantable contraceptives, intrauterine devices and bilateral tubal ligation

a. Implanon®: implanted device, progesterone only; effective within 48 hours of insertion; 3-year lifespan

b. IUD: Mutually monogamous relationship recommended (due to elevated risk of pelvic inflammatory disease with multiple partners); 5-year lifespan

c. BTI: Permanent, requires consent 30 days prior to delivery or insertion.

Requires insurance coverage.

Week 6: Review of all contraception and sexual health communication skills

a. Review of all contraceptive choices

b. Sexual health communication

c. Reducing the risk of sexually transmitted diseases

d. Breastfeeding (necessitates individual review of medical status, medications and substance abuse treatment compliance/abstinence; Academy of Breastfeeding Medicine, 2009)

e. How to communicate with partner and health care providers regarding contraceptive choices and use of contraception

Initially, all women in treatment at CAP were approached at 36 weeks gestation for an individual counseling session to inquire about their contraceptive choices. The gestational age at which patients had this individual session was gradually reduced to 32 weeks to include women who delivered prematurely. A post-partum individual appointment, usually during the hospital stay after delivery or immediately after hospital discharge, reviewed contraception options and again assisted the woman in selecting a method of contraception if desired. A post-partum session was later included for women experiencing a pregnancy loss or termination.

In the second through fourth years of the program, additional funds ($74,568 total for three years) were obtained for an ongoing FPI mentor. This mentor, a former CAP client in recovery, provided an avenue to engage women in CAP treatment with the FPI early in their admission to the program regardless of gestational age, with the goal of incorporating family planning into the woman’s overall treatment plan and her agenda for recovery. Additionally, this mentor served to encourage attendance for group and individual FPI educational sessions, provide outreach to women missing appointments, and in general served as a role model for the women currently in treatment, providing a comprehensive view of their recovery and the prospect of employment (“giving back”) post-treatment. Occasionally the mentor would provide advocacy for women facing barriers in obtaining requested contraception on the post-partum hospital unit.

The program existed from 2005–2009. At no point during the four year program were women required to choose a contraception method or plan as part of comprehensive care at CAP. Women opting for no contraception
received only educational services, which were required of all CAP clients. All FPI clinical services were delivered in a one morning per week FPI clinic within the pediatric clinic at CAP, which provided pediatric well and sick child care to children of CAP women. Efforts were made to schedule FPI visits and pediatric care visits (for those women receiving pediatric care at CAP) on the same day, reducing the burden of transportation for the women and increasing accessibility to FPI services. After the second year of the program, subcutaneous progesterone implants became available as a choice. One identified barrier to care was the lack of availability of this method for women without insurance post-partum, or who were denied insurance coverage for this method. Additional funds ($5,000) were obtained for the purchase of subcutaneous progesterone implants for uninsured women that desired them as a contraceptive choice.

RESULTS

Over the four years that the program existed, 671 women were seen for any service in the FPI clinic; patient demographics are presented in Table 1. Mean education hours received was 3.6 hours per FPI participant. On enrollment into the FPI program, the majority of women (85.8%) reported their current pregnancy as unplanned. During the second year of the FPI program, subcutaneous progesterone implants became available as a contraception choice for insertion in the clinic. Methods of contraception chosen by the patients over the course of the FPI program are presented in Table 2.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>FPI Patient Demographic Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N</strong></td>
<td>671</td>
</tr>
<tr>
<td>Mean age of participants (years)</td>
<td>30.5 (range 16–45)</td>
</tr>
<tr>
<td><strong>Race (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>55.6</td>
</tr>
<tr>
<td>African American</td>
<td>42.3</td>
</tr>
<tr>
<td>Other</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Marital status (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>87.2</td>
</tr>
<tr>
<td>Married</td>
<td>9.0</td>
</tr>
<tr>
<td>Divorced</td>
<td>1.2</td>
</tr>
<tr>
<td>Separated</td>
<td>1.3</td>
</tr>
<tr>
<td>Widowed</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Gravida</strong></td>
<td>4.7 (Range 0–20)</td>
</tr>
<tr>
<td>Planned pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14.2</td>
</tr>
<tr>
<td>No</td>
<td>85.8</td>
</tr>
<tr>
<td>Custody of child post-delivery (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>44.3</td>
</tr>
<tr>
<td>No</td>
<td>12.2</td>
</tr>
<tr>
<td>Unknown</td>
<td>4.5</td>
</tr>
<tr>
<td>Smokers (%)</td>
<td>88.7</td>
</tr>
<tr>
<td>Method</td>
<td>3rd trimester</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Tubal ligation</td>
<td>31.9</td>
</tr>
<tr>
<td>Depo-Provera injections</td>
<td>14.0</td>
</tr>
<tr>
<td>Subcutaneous progesterone implant</td>
<td>11.6</td>
</tr>
<tr>
<td>Undecided</td>
<td>6.9</td>
</tr>
<tr>
<td>OCPs</td>
<td>7.3</td>
</tr>
<tr>
<td>Patch</td>
<td>2.8</td>
</tr>
<tr>
<td>None/decline</td>
<td>9.2</td>
</tr>
<tr>
<td>IUD</td>
<td>3.0</td>
</tr>
<tr>
<td>Ring</td>
<td>2.1</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>0.1</td>
</tr>
<tr>
<td>Unknown/not seen</td>
<td>11.0</td>
</tr>
</tbody>
</table>

In the final two years of the program, barriers to care were identified. In this period, 85 women elected for bilateral tubal ligation in the third trimester as a contraceptive choice. Of these women, 57 (65.9%) women received tubal ligation immediately postpartum. Barriers to tubal ligation for the remaining women were identified as follows: 20 women changed their minds during their stay in the labor and delivery unit, 6 had medical complications after delivery, 2 did not sign the consent form, or signed too close to delivery. Of the 28 women who did not receive a tubal ligation as requested, 12 received subcutaneous progesterone implants, 10 received Depo-provera injection, 1 received a ring, 1 received a patch, and 1 received an IUD. Three women declined contraception.

Also in this period, 94 women requested and 74 (78.7%) received subcutaneous progesterone implant contraception. Barriers to subcutaneous progesterone implant insertion were identified as follows: 12 changed their minds during or after delivery, 7 delivered elsewhere and did not return to FPI care, 1 had significant medical complications that precluded subcutaneous progesterone implant contraception. Of the 20 women who did not receive subcutaneous progesterone implant insertion as requested, 6 received Depo-provera injections, 6 received OCPs, 1 received the patch, and 7 declined contraception.

At a minimum, and excluding other contraceptive methods and the impact of educational services provided, the FPI program provided permanent (tubal ligation) or long acting (subcutaneous progesterone implant or IUD) contraception to 214 women over the 4 years of the program. Total costs for the program, including the mentor salary, were $54,892 per year. In 2009, 87 women received either permanent (tubal ligation) or long acting (subcutaneous progesterone implant or IUD) contraception at an estimated cost of $308 per woman. Particularly considering that the pregnancies were unplanned, and that inpatient hospital costs for drug exposed infants are likely to represent only a small fraction of health care and other costs.
associated with maternal addiction, it is easy to comprehend the potential cost savings for this model of care for this population.

DISCUSSION

This project has demonstrated the clinical and cost effectiveness of a family planning clinic providing contraceptive services and family planning education to a population of drug-dependent women attending a pediatric clinic within a drug treatment program—a novel setting for the provision of necessary and desired health care services for a high risk population. Family planning services for drug dependent women should be integrated into an accessible, comprehensive, and coordinated system of health care and social services. The provision of truly comprehensive care services may require the extension of traditional health care boundaries by providers (Jansson & Velez, 2011). Health care workers treating this population should consider the institution of family planning services into non-traditional health care systems that high-risk women attend, such as substance abuse treatment programs, particularly those distribute methadone (Sinha, Guthrie, & Lindow, 2007). This policy has been endorsed previously (Fordyce, Jones, & Hopkins, 1992) and found to be effective (Armstrong, Samost, & Tauris, 1992). As demonstrated here, another health care option for the provision of desired contraceptive services to high risk women is within a pediatric clinic where women from drug treatment programs bring their infants frequently, where associated advantages may include the provision of outreach services to women who lapse in other aspects of health care. The vulnerable and high-risk, high-cost population of substance dependent women and their children require culturally sensitive, acceptable and accessible services provided as a network of continuous care for the optimization of clinical, social, and economic outcomes.

REFERENCES


